Queensland Government | Metro South Health | phn BRISBANE SOUTH An Australian Government Initiative

Improving end-of-life care for residential aged care residents

Final Report

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January, 2018

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EXECUTIVE SUMMARY

This project represents a collaboration between Brisbane South PHN (BSPHN) and Metro South Health (MSH). It has achieved its stated aim of supporting residential aged care facilities (RACFs) to embed an evidence–based advance care planning (ACP) program, adapted for individual facilities, into routine clinical care to support high quality end-of-life care for residents.

The high volunteer participation rate of the RACFs, well in excess of target numbers, indicates their recognition of the need for such an intervention. The surveyed high satisfaction levels of RACF staff, residents and their significant others indicates that the intervention was well tailored and the content appropriate for the relevant groups. All the desirable short-term outcomes for the project were achieved which augers well for the long-term outcomes that could not be measured within a single year.

Background

Brisbane South PHN and MSH identified the need to conduct a pilot project involving RACFs in the BSPHN geographical area to improve the quality and cost effectiveness of end-of-life care for residents. The project was titled *Improving end-of-life care for residential aged care residents*.

Brisbane South PHN and MSH are ideal partners because the geographical areas of the organisations almost exactly overlap (including urban, rural and remote regions) and both are committed to improving end-of-life care for their population.

Aim

The aim of this project was to support RACFs to embed an evidence-based ACP program, adapted for individual facilities, into their routine clinical care to support high quality end-of-life care for residents and their family/friends.

Method

Residential aged care facilities in the BSPHN catchment area were invited to participate in the project via an Expression of Interest (EoI) and Memorandum of Understanding (MoU) process.

The project intervention was multifactorial and targeted different domains of RACF organisation. It included three levels:

- System
  - An example of an ACP policy and procedure was developed to support implementation of the ACP program in the participating RACFs.
- Providers
  - Education (online, workshop and peer support) about ACP implementation was developed and provided to ACP staff champions and to general practitioners (GPs) and locum GPs (lunchtime education sessions and workshops) who serviced the participating RACFs.
- Residents, families and substitute decision makers (SDMs)
  - Brochures for residents, families and/or SDM(s) were developed and supplied to participating RACFs to inform them about ACP.

The project was evaluated via surveys and audits completed by RACF managers, GPs, ACP champions and residents or their SDMs.

Ethics approval to conduct the project was obtained from Metro South Health Human Research and Ethics Committee Office, the Uniting Care Queensland Human Research Ethics Committee and the Research Ethics Group Churches of Christ in Queensland.

Results and discussion

Participation

Thirty-one RACFs participated in the project. Seventy-seven ACP staff champions participated in the project. Thirty-five GPs and nurses participated in the lunchtime education and workshops.

Impact on ACP activity

The most important outcome of this pilot project is the demonstrated extensive improvement in ACP activity in participating RACFs. This is evidenced by the increased number of RACFs using the ACP document known as the Statement of Choices (SoC), increased numbers of completed SoCs being uploaded to The Viewer and significant increases in audited clinical notes documenting use of ACP discussions to inform clinical care.

This change means, that within participating RACFs, many more residents had the opportunity to express their end-of-life preferences and values thereby improving the opportunity for residents to receive care aligned with their preferences and values.

Impact on knowledge, confidence and skills of aged care staff and GPs

ACP champions

Program evaluation by ACP staff champions indicates a significant increase in knowledge, confidence and clinical skills necessary to undertake ACP discussions with residents and SDMs as a result of participating in the developed education.

All components (online, workshop and peer support) of the education program were evaluated as important. As well as being effective the education was efficient, a most important consideration for the time poor RACF workforce.

GPs and Nurse Practitioners (NPs)

Advance care planning knowledge, confidence and skills of participating practitioners increased significantly as a result of attendance at the workshops. Unfortunately, GP attendance at education events was lower than the project team would have liked, though not unexpected, as it can be difficult to attract GPs to end-of-life education.

Impact on residents' levels of awareness and satisfaction with ACP

Residents and SDMs considered it appropriate to hear about ACP while in the RACF, were satisfied with the way the topic was introduced and the amount of information provided, and considered that the nurse, who discussed ACP with them, cared about them. These findings from residents' and SDMs' surveys confirms the self-reporting from ACP champions that the program education resulted in increased clinical skills for initiating and holding ACP conversations.

Residents and SDMs reported that hearing about ACP was not confronting. This is an important message for RACF managers, nurses and GPs as the literature reports that a major barrier to ACP discussions is the attitude of health care professionals.[1]

Residents and SDMs also clearly stated that they preferred to hear about ACP from the facility nurse rather than the GP. This is another powerful positive message to disseminate to RACF managers and staff to support embedding ACP in clinical care within RACFs.

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[1] Lund S, Richardson A, May C. Barriers to advance care planning at the end of life: An explanatory systematic review of implementation studies. PLoS One 2015. 10: e01116629

Impact on embedded policies/procedures/guidelines

Evaluation indicated that there was a system level change in participating RACFs' ACP processes. Pre and post organisational surveys showed increased agreement with significant markers of evidence-based care such as in-service education about ACP, ACP discussions with residents and families on admission, educational material available for residents and families, review of deaths to assess if end-of-life preferences were met, and mechanisms for transferring ACP plans from the RACF to hospital.

Impact on hospital transfers

Being able to die in a person's nominated preferred place of death is often considered a clinical quality indicator for palliative care.[2] The majority of residents in this project indicated they wished to die in their RACF, not hospital. Previous studies have shown that implementing ACP in RACFs can reduce hospital admissions, length of hospital stay and hospital deaths.[3,4] However, the data from this current project are not aligned with those outcomes. One possible explanation for the difference is that data collection for this project were limited to hospital transfers in the last week of life, whereas much of the previous research considered transfers to hospital over a much longer period. Given the short time frame for data collection in this project, the effect may have been missed.

Recommendations

An ongoing commitment to improving sustainable end-of-life care that emphasises quality person-centred care for residential aged care residents within the BSPHN area is recommended.

Strategies could include:

- Targeting additional RACFs
  A rollout out of the multifactorial ACP intervention to additional RACFs within the BSPHN area is recommended as two-thirds of RACFs in the BSPHN were not included in this pilot project.
- Broadening the scope of the project education
  The focus of this project was ACP, however, ACP is only one aspect of quality person-centred end-of-life care. In order to respect a resident's wishes, as expressed in an advance care plan, RACFs need to have the clinical skills to provide holistic quality end-of-life care within the RACF.

  It is recommended that a Residential Aged Care Palliative Approach Link Nurse (Link Nurse[5]) project be undertaken. The aim would be to increase the capacity of RACF staff to deliver a comprehensive, evidence-based palliative approach to care within RACFs and to

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2 De Roo ML, Miccinesi G, Onwuteaka-Philipsen Bd et al EURO IMPACT. Actual and preferred place of death of home-dwelling patients in four European countries: making sense of quality indicators. PLoS ONE 2014. 9:e93762

3 Caplan GA, Mueller A, Squires B et al. Advance care planning in the nursing home. Age Ageing 2006. 35:581-585

4 O'Sullivan R, Murphy A, O'Caoirrh R et al. Economic (gross cost) analysis of systematically implementing a programme of advance care planning in three Irish nursing homes. BMC Res Notes 2016. 9:237 DOI 10.1186/s13104-016-2048-9

5 The link nurse is a registered or enrolled nurse with an interest in palliative care and working a minimum of 0.6 FTE. The roles of the Link Nurse are to consistently promote and model the palliative approach to resident care, act as a palliative care resource for other staff, internally coordinate palliative approach education and training and liaise with the Specialist Palliative Care team for any support, collaborate with the RACF management team, GPs and other staff members in the coordination of a palliative approach within the facility, promote the use of evidence-based resource tools, and complete audits as part of quality improvement activities.

improve resident and family outcomes through a program of ongoing relevant education, training and professional development activities. The training would focus on education, implementation and evaluation of the three key clinical processes in a palliative approach to care - ACP, palliative care case conferences, and use of an end-of-life care pathway.

- Ongoing access to education resources
  Staff retention and turnover in aged care (estimated average annual turnover is as much as 25 per cent[6]) is a significant and longstanding problem in the sector. Consequently, RACFs need ongoing access to quality education about end-of-life care for replacement staff.

  The multifactorial education intervention implemented in this project needs to be converted to online resources that can be reviewed, updated and accessed by RACFs on an ongoing basis.
- Ongoing promotion and support
  Experience indicates that the development of resources and delivery of education alone will not lead to sustainable outcomes; stakeholder input and multi-level strategies are important to support implementation and sustainability. Provision of ongoing support for RACF nursing staff to provide quality end-of-life care will help to embed ACP into routine care. Such activities could include end-of-life conferences, a website with online educational resources, a regular blog and importantly tenured educational clinical staff.

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6 Belardi L. Unhappy workers: tackling the reasons why aged care staff leave. The Australian Agenda. January 2016. Available at: http://www.australianageingagenda.com.au/2016/01/27/tackling-why-staff-leave/

1 INTRODUCTION

1.1 Background

Brisbane South PHN (BSPHN) and Metro South Health (MSH) recognise the need to improve quality of end-of-life care for residents in residential aged care facilities (RACFs) in the BSPHN geographical area.

Brisbane South PHN and MSH are ideal health care partners because the geographical areas of the organisations almost exactly overlap and both aim to improve person-centred care for residents in RACFs. Brisbane South PHN has aged care as a priority, established by the Australian Government. Metro South Health staff have flagged concerns that residents may experience unwanted interventions and treatments at end of life.

It was agreed that an important strategy to achieve improvement in end-of-life care would be to have advance care planning (ACP) discussions routinely implemented in RACFs and to have residents' wishes, as expressed in ACP documents, readily accessible to clinicians. Collaboratively, it was decided to conduct the *Improving end-of-life care for residential aged care residents* project aimed at improving ACP activity.

1.1.1 What is ACP?

Advance care planning refers to discussions between a resident, their family and/or substitute decision maker(s) (SDM(s)) and health care professionals enabling the resident's preferences for future health care to be known should they become unable to participate in the decision making process. Ideally these preferences are documented.

1.1.2 Context of the project

Population and health services in BSPHN geographical area7

The population within the BSPHN geographical area is 1.1 million (23% of Queensland's population) and includes a large proportion of vulnerable populations: culturally and linguistically diverse, refugees, older persons and Aboriginal and Torres Strait Islander peoples. Thirteen percent are aged over 65 years – approximately 130,000 residents.

The population in the area is projected to increase substantially in future years with large increases expected particularly in older age groups.

The area includes approximately 90 RACFs with 7,371 operational RACF beds. Supporting the RACFs are approximately 300 general practices with 1,325 general practitioners (GPs).

Seven public hospital and six private hospitals service the population.

National context

There is agreement across Australian government policy makers, peak professional bodies in aged care and palliative care, and carers that residents of RACFs should be able to age and, if possible,

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[7] Brisbane South PHN. Whole of Region Needs Assessment. 2016. Available at: http://www.bsphn.org.au/wp-content/uploads/2016/04/WORNA-2016.pdf

to die ‘in place’ in their RACF.[8,9]

There is also agreement that management and staff of RACFs need to be supported to provide high quality end-of-life care for this growing and vulnerable population including supporting residents to die in their RACF if that is their preferred wish and RACFs have adequate resources and clinical skills.

Advance care planning is an important component of quality person-centred end-of-life care. It is integral to ensuring that end-of-life care delivered to patients is aligned with their wishes. An important component of ACP is identifying a SDM.

It has been shown that ACP can improve patient and family satisfaction with care, reduce RACF transfers to hospital, and reduce indicators of stress, anxiety and depression in surviving relatives.[10,11]

Despite the known benefits of ACP and the fact that it is supported by legislation and seen as a national priority in Australia,[12,13,14,15] the implementation of ACP in Australia remains low. At present there is evidence that many RACFs do not routinely implement ACP and in those facilities that recognise the importance of ACP, the quality of instruments and processes is questionable.[16,17,18] In addition, current research indicates that there is variability in the concordance between wishes expressed through ACP and actual treatment provisions.[19]

Many argue that a coordinated, systematic, patient-centred approach to ACP is required rather than an approach that simply focuses on increasing the number of advance care plans completed.[20] This type of approach has been shown to support residents’ wishes, as expressed in their advance care plans, being respected.[21]

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8 Palliative Care Australia. End of Life Care is everyone’s affair – tackling the challenge of ‘end of life’. Submission to the National Health and Hospitals Reform Commission, Canberra, 2008

9 Abbey J. The reality for aged and community care and end of life. Presentation to A Matter of Life and Death: Confronting the New Reality, Palliative Care Australia National Stakeholder Forum, March 2008, Canberra

10 Wright AA, Zhang B, Ray A, et al. Associations between end-of-life discussions, patient mental health, medical care near death, and caregiver bereavement adjustments. JAMA 2008. 300:1665-73

11 Detering KM, Hancock AD, Reade MC et al. The impact of advance care planning on end of life care in elderly patients: randomised controlled trial. BMJ 2010. 340:1345

12 Respecting Patient Choices. A program funded by the Australian Government. www.advancecareplanning.org.au

13 Decision Assist. A program funded by the Australian Government. www.decisionassist.org.au

14 Residential Aged Care Palliative Approach Toolkit. Available at: http://www.caresearch.com.au/CareSearch/tabid/3579/Default.aspx

15 Reymond L, Cooper K, Parker D, Chapman M. End-of-life care: Proactive clinical management of older Australians in the community. AFP 2016. 45: 76-78. Available at: http://www.racgp.org.au/afp/2016/januaryfebruary/end-of-life-care-proactive-clinical-management-of-older-australians-in-the-community/

16 Brown M, Grbich C, Maddocks I et al. Documenting end of life decisions in residential aged care facilities in South Australia. ANZ Journal of Public Health 2005. 17:95-101

17 Lyon C. Advance care planning for residents in aged care facilities: what is best practice and how can evidence-based guidelines be implemented? Int J Evid Based Healthcare 2007. 5:450-7

18 Brown M, Grbich C, Maddocks I et al. Documenting end of life decisions in residential aged care facilities in South Australia. ANZ Journal of Public Health 2005. 17:95-101

19 Nair B, Kerridge I, Dobson A et al. Advanced care planning in residential aged care. Aust NZ J Med 2000. 30:339-343

20 Detering KM, Hancock AD, Reade MC et al. The impact of advance care planning on end of life care in elderly patients: randomised controlled trial. BMJ 2010. 340:1345

21 Detering KM, Hancock AD, Reade MC et al. The impact of advance care planning on end of life care in elderly patients: randomised controlled trial. BMJ 2010. 340:1345

MSH context

Metro South Health has introduced a district-wide system for ACP. The system is based upon standardised ACP documents, called Statement of Choices (SoC) (see Attachment 1), together with a mechanism to audit and upload documents directly onto the Queensland Health Viewer (The Viewer) for easy retrieval by Queensland Health clinicians, GPs and the Queensland Ambulance Service.

This system enables a resident's wishes for end-of-life care to be easily known, accessed and considered at times when critical decisions need to be made, especially if the person is unable to communicate their wishes at that time.

Implementation of the SoC by RACFs as their form for documenting ACP discussions, provides the opportunity to use a coordinated, systematic patient-centred approach to ACP enabling an RACF residents' ACP documentation to be viewed in most health settings.

1.2 Aim

The aim of this project was to support RACFs to embed an evidence-based ACP program, adapted for individual facilities, into their routine clinical care to support high quality end-of-life care for residents and their family/friends.

1.3 Objectives

The **primary objective** of the project was to increase the uptake of ACP activities within RACFs.

The **secondary objectives** were to:

1. Increase the knowledge, confidence and skills of aged care staff GPs to provide ACP for residents in RACFs
2. Improve resident and families/friends awareness and satisfaction with ACP
3. Embed in RACFs policies/guidelines/procedures for an ACP program to regularly evaluate whether residents' wishes as expressed in their ACP documents are respected
4. Decrease hospital admissions in relation to palliative patients in RACFs
5. Develop an evidence base to support the cost effectiveness of implementing ACP programs.

1.4 Outcomes

Desirable short and long-term outcomes for the project were identified (see Table 1) though it is acknowledged that only short term outcomes could be measured in this project.

Table 1: Project outcomes and associated characteristics

Outcome		Stakeholder to receive benefit	Short or long term	Data source	Linked to objective
1	Increased uptake of ACP for target sites	RACF residents Families/friends/SDMs	Short	• Measured by no. of advance care plans completed (in particular no. submitted to The Viewer) • Pre- and post- after-death audit	Primary objective Secondary objectives 1, 2, 3, 4
2	Improved health professionals knowledge, confidence and skills concerning ACP	RACF staff GPs	Short	• Evaluation surveys – pre- and post-education	Primary objective Secondary objective 1
3	Improved levels of awareness and satisfaction with ACP	Residents Families/friends/SDMs	Short	• Qualitative evaluation after advance care plans completed	Primary objective Secondary objective 2
4	ACP preferences are respected	Residents Families/friends/SDMs	Short	• Post after-death audit	Primary objective Secondary objective 3
5	Embedded policies/procedures/guidelines	RACF Resident Families/friends/SDMs RACF staff	Short	• Pre- and post - organisational policies and structures audit	Primary objective Secondary objective 3
6	Reduced number of hospital transfers in last 12 months of life	Residents Families/friends/SDMs RACF staff	Long	• WORNA	Primary objective Secondary objective 4
7	Improved resident health and wellbeing over time	Residents	Long	• WORNA	Primary objective Secondary objective 4
8	Service profile meets the needs of the population	Residents Families/friends/SDMs	Long	• WORNA	Primary objective Secondary objective 3
9	Improved access to the right care, at the right time in the right place for recipients	Residents Families/friends/SDMs	Long	• WORNA	Primary objective Secondary objective 4
10	Improved system level value for money – cost/demand	Health system	Long	• WORNA	Secondary objective 5

2 METHODOLOGY

2.1 Overview

Table 2 lists the activities and tasks undertaken as part of the project.

Table 2: Project method activities and tasks

Activities	Tasks
Governance	• Memorandum of Understanding (MoU) signed between MSH and BSPHN • Cost centre established • Staff recruited • Committees and terms of reference established
Design of multifactorial intervention	• Identification of intervention strategies
Recruitment of RACFs	• Expression of Interest (EoI) • MoU
Recruitment of and initial engagement with participants	• RACF managers • ACP champions • GPs • Residents and/or SDMs
Development of resources and delivery of education	• Example ACP policy and procedure • Education for ACP champions • Education for GPs • Information for residents, families and/or SDMs
Evaluation	• Evaluation plan developed • Evaluation tools developed
Ethics	• Ethics approval obtained
Methodological changes	• Initial engagement with RACF managers and ACP champions • Peer support

2.2 Governance

2.2.1 Staffing

A project manager, Clinical Nurse Consultant, clinical nurse and administrative assistant were recruited to conduct the project.

2.2.2 Committees

Project team

The project team met regularly to oversee the implementation of the project. The members of the project team were the Project Director, Project Manager, manager of Brisbane South Palliative Care Collaborative (BSPCC), the Clinical Nurse Consultant, the clinical nurse and administrative assistant.

Steering Committee

The primary role of the Steering Committee was to provide the opportunity for members to contribute their experience, knowledge and perspectives to the achievement of the project's outcomes, including identifying potential risks. The committee met every 3 months.

The members of the Steering Committee included representatives from the project team, BSPCC and the aged care sector.

The Terms of Reference (including list of members) for the Steering Committee are in Attachment 2.

2.3 Design of multifactorial intervention

The intervention for the project was developed based on a needs analysis for the project (see Attachment 3), experience of the Inreach Specialist Palliative Care Service to the RACF (Metro South Palliative Care Service) and projects and education undertaken by BSPCC.

The intervention in the project was multifactorial to target different levels in the RACF. It included:

- System level
  - An example of an ACP policy and procedure was developed to support implementation of an ACP program in the participating RACFs.
- Clinicians
  - Education about ACP was developed and provided to RACF ACP champions and to GPs (including locum GPs) who attend the participating RACFs.
- Residents, families and SDMs
  - Information brochures for residents, families and/or SDM(s) were developed and supplied to participating RACFs.

2.4 Recruitment of RACFs

2.4.1 EoI

An invitation to participate in the project was posted to the 90 RACFs in the BSPHN area. It included a/n

- Letter of invitation (see Attachment 4)
- EoI application (see Attachment 5)
- Information sheet for managers about the project (see Attachment 6)
- Factsheet about the project (see Attachment 7)
- Draft copy of non-legally binding MoU that managers would be expected to sign
- A SoC (see Attachment 1).

A convenience minimum target number of participating RACFs was set at 25.

2.4.2 MoU

After processing 33 EoIs submitted by RACFs, an invitation to sign a MoU was mailed to each RACF. It included:

- A letter of invitation to sign the MoU (see Attachment 8)
- Two copies of the final version of the MoU for signing (see Attachment 9)
- A Contact Details form (see Attachment 10).

2.5 Recruitment of and initial engagement with participants

There were four participant groups in the project (see Table 3).

Table 3: List of participant groups

Participant group	Recruitment process	Key role
RACF managers	Identified by the RACF	• Commitment to the uptake and promotion of ACP in their facility
ACP champions	Recruited by RACF manager	• Participate in the project education program and facilitate ACP discussions with residents and/or SDMs
GPs	Identified by RACF manager	• Contribute to and sign advance care plans in the RACF
Residents/SDMs	Identified by ACP champion and RACF manager	• Complete satisfaction survey after an ACP discussion

2.5.1 RACF managers

A project clinical nurse met with managers in each participating RACF with the aim of informing them about the project, explaining the role of the manager (including completing a pre-survey concerning organisational structures) and delivering a pack of resources (see Attachment 11 for list of resources) including a Project Brief for RACF Managers (see Attachment 12).

A key outcome of the meeting was to gain engagement in developing/reviewing the RACF's ACP policies and procedures based on the example ACP policy and procedure developed by the project team (see Attachment 13).

2.5.2 ACP champions

Seventy-seven ACP champions were identified by participating RACFs.

A project clinical nurse met with ACP champions in each RACF with the aim of informing them about the project, explaining the role of the ACP champion, explaining requirements to complete pre-surveys and audits and delivering an information pack of resources (see Attachment 14 for list of resources) including a Project Brief for ACP champions (see Attachment 15).

A key outcome of the meeting was to ensure that ACP champions understood their role and the commitment it required.

2.5.3 GPs

Sixty-six visiting GPs and one Medical Deputising Service were identified by staff from the participating RACFs as attending RACFs.

A project brief was developed for the Area Account Managers (AAMs) from BSPHN (see Attachment 16). GP practices identified by RACF managers were initially visited by the AAMs with the aim of informing practices about the project, explaining the role of the GP, giving details of the educational opportunities for GPs and delivering an information pack of resources (see Attachment 17 for list of resources).

The project manager contacted the Medical Deputising Service identified by participating RACFs and offered to conduct the workshop for their GP members.

2.5.4 Residents and SDMs

After completing an ACP discussion with an RACF ACP champion, ACP champions invited residents, and/or their SDMs to complete a satisfaction survey to be administered by a project clinical nurse.

2.6 Development of resources and delivery of education

2.6.1 Example ACP policy and procedure

An *Example Policy and Procedure: Implementation of Advance Care Planning in Residential Aged Care Facilities* (see Attachment 13) was developed for RACFs to use to develop and/or review their own documentation to support the implementation of ACP in their facility. It was not meant to be prescriptive. Managers in RACFs could adapt the content of the example ACP policy and procedure to meet their own identified needs.

2.6.2 Education for ACP champions

There were 3 main components to the education program for ACP champions:

- Online education modules
- An ACP champion workshop
- Peer support

Online education modules

Three online education modules were developed for ACP champions to complete before attending the ACP champion workshop. These modules focused on the theoretical knowledge necessary to engage in ACP.

The three online education modules were hosted by CareSearch at:
https://www.caresearch.com.au/caresearch/tabid/4186/Default.aspx
(Note that this initial website has now been replaced by www.EoLcareRACF.com.au and the three online modules were reviewed in late 2017).

ACP champion workshop

Seven half-day workshops were delivered by the project clinical nurses. The workshop was very interactive. It supported participants to undertake their role as an ACP champion by providing an opportunity to enhance skills and confidence to discuss ACP with residents and/or SDMs. Participants were given educational resources to train other staff in the facility about ACP.

An ACP Champion Guide was developed to support attendance at the workshop and their ongoing role as an ACP champion (see hardcopy folder).

Peer support

This entailed 3 hours of face-to-face education for each champion within their RACF and follow-up telephone support delivered by the project clinical nurses. The options for this education are listed in Table 4.

Table 4: Peer support options

Title	Aim
Demonstration	• The project clinical nurses conducted a demonstration ACP discussion with a maximum of two ACP champions and the resident, family and/or SDM(s). • The session included feedback with the champions.
Peer guidance	• The project clinical nurse provided peer support while the ACP champion conducted an ACP discussion with a resident, family and/or SDM(s). • The session included feedback with the champions.
Critique a completed SoC (or alternative values-based document)	• The project clinical nurse facilitated a discussion of a completed SoC (or alternative values-based document) with a small group of ACP champions in a RACF.
Small group discussion	• The project clinical nurse facilitated a discussion about key concerns for the ACP champions in a RACF e.g. developing strategies to address challenging situations, considering the ACP processes within the RACF. • The project clinical nurse provided peer support while an ACP champion delivered education to other staff in their facility using the training modules developed by the project team.

2.6.3 Education for GPs

Two education options for GPs were offered: a lunchtime education session that was only available to the GPs identified by the RACFs and a workshop open to all GPs and Nurse Practitioners (NPs). General Practitioners could register for both opportunities.

Lunchtime education sessions

Lunchtime education sessions were delivered by a palliative medicine advanced trainee at individual GP practices (see invitation in Attachment 18).

This lunchtime education session provided a brief opportunity for GPs and colleagues to enhance their understanding of the context and clinical implications of ACP in general practice, including relevant Queensland legislation and common ACP documents used in Queensland.

Participation was supported by an information pack (see Attachment 19 for a list of resources).

Workshop

A two-hour RACGP accredited workshop (Activity number: 90253) was presented by a Palliative Medicine Specialist in three locations in BSPHN area (see invitation in Attachment 20). Four workshops were planned (including one to GPs employed by the National Home Doctor Service); one workshop was cancelled due to low registration numbers.

The workshop provided an opportunity for GPs to enhance their understanding of legislation and common documentation relevant to ACP in Queensland and their implications for clinical care with the aim of increasing skills and confidence to discuss ACP, document the discussions and provide clinical care in accordance with the wishes expressed in discussions and documentation.

Participation was supported by an information pack (see Attachment 21 for a list of resources).

2.6.4 Information for residents, families and SDMs

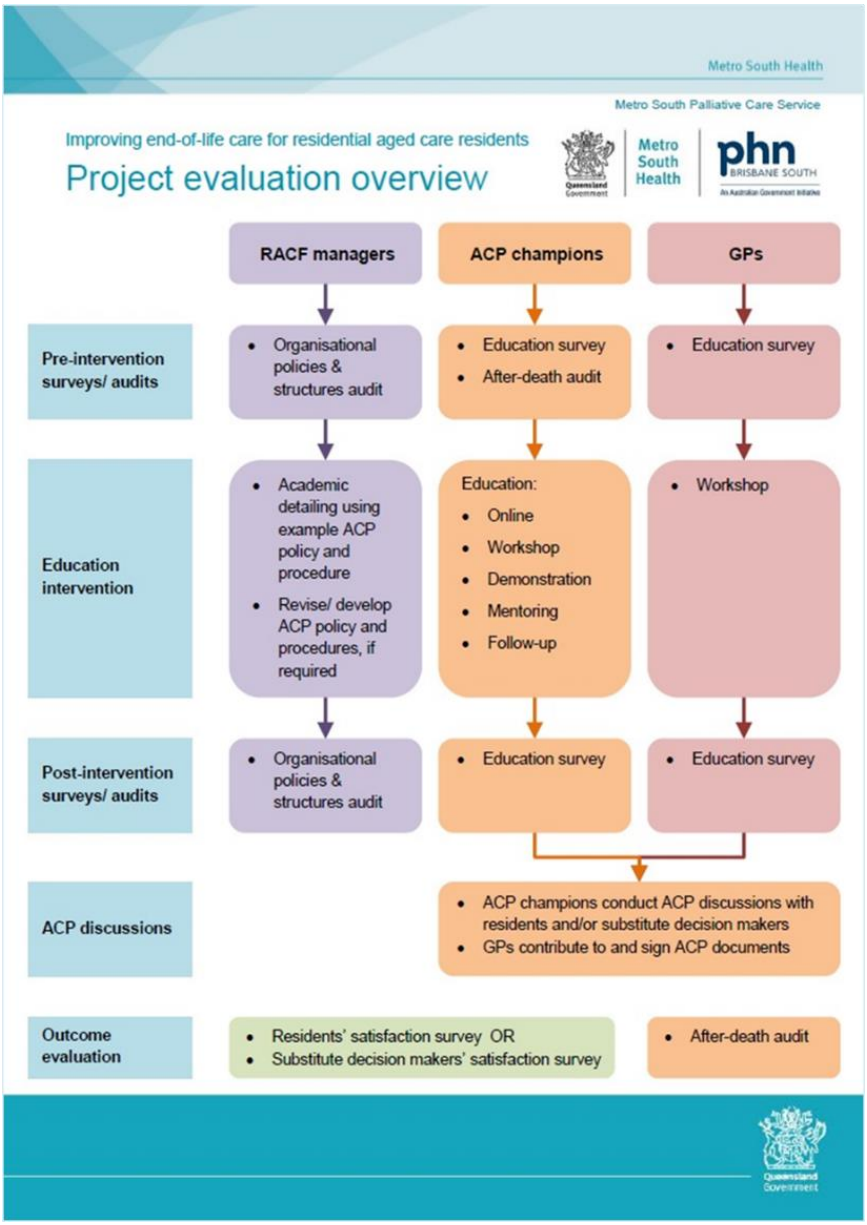
Managers and ACP champions were given a copy of a brochure about ACP that they could use in their facility (see Attachment 22).

2.7 Evaluation

An Evaluation Plan was developed and implemented (see Attachment 23). The Evaluation Plan detailed the:

- Project logic model
- An overview of the evaluation (see Figure 1)
- List of the pre-intervention and post-intervention surveys and audits, who is to complete each and when
- Copy of each of the pre-intervention and post-intervention surveys and audits.

Figure 1: Project evaluation overview



2.7.1 Data collection

The data collection strategy is detailed in the Evaluation Plan (see Attachment 23). All surveys and audits were anonymous.

2.7.2 Data analysis

All data was entered into SPSS Statistics software.

As the pre- and post- intervention surveys and audits were completed anonymously, data could not be matched. Independent samples t-tests were used to test for significant changes from pre- to post- intervention or the chisquare test of independence for categorical data.

2.8 Ethics

Ethics approval to conduct the project was obtained from Metro South Health Human Research and Ethics Committee Office.

In addition, six participating RACFs required approval from their own ethics committee and consequently ethics approval was obtained also from:

- The Uniting Care Queensland Human Research Ethics Committee
- The Research Ethics Group Churches of Christ in Queensland.

2.9 Methodology changes

2.9.1 Initial engagement with RACF managers and ACP champions

The original methodology required that the initial engagement with participating RACFs and ACP champions was to be by telephone or email. The project team decided that a face-to-face meeting would be advantageous. This proved to be an effective change as the meetings revealed many valuable insights into particular RACFs and their needs that were considered throughout the project. In addition, given how busy managers and nurses are within RACFs, the face-to-face meetings enabled a rapport to be built up with project clinical nurses and increased engagement with the project.

2.9.2 Peer support education

Initial change

In the original proposed ACP education program, the peer support element comprised a demonstration and two mentoring sessions that were facilitated by a project clinical nurse. However when the project clinical nurses met with managers and ACP champions, feedback indicated that a more versatile program would better meet the needs of ACP champions.

The ACP champions were invited to choose from four peer support options. The project Clinical Nurse Consultant considered the ACP champions' choices and developed a peer support program for each RACF. It endeavoured to meet identified needs of individual ACP champions together with the needs of colleagues and the available time of each project clinical nurse.

Second change

It became apparent that the revised peer support program still did not meet the needs of all ACP champions and consequently project clinical nurses revised some RACFs' plans. A new activity was introduced that proved popular with many ACP champions. This involved the project clinical nurses providing peer support while an ACP champion delivered education to other staff in their facility using the training modules developed by the project.

Being responsive to the needs of ACP champions improved engagement with the education and was appreciated by participants.

3 RESULTS

3.1 Numbers participating in project

The 31 participating RACFs are listed in Attachment 24.

3.1.1 ACP champion education

Seventy-seven ACP champions participated in the project (see Table 5). Seven champions didn't complete the education intervention because their employment circumstances changed. Of the remaining seventy ACP champions, the majority completed the 3-hour peer support education but some ACP champions chose to only complete 2 hours citing time stress and not needing more education as reasons not to complete all 3 hours.

Table 5: Numbers of ACP champions participating in education components

Online education	Workshop	Peer support
77	76	70

3.1.2 GP education

Table 6 indicates the numbers of GPs and nurses participating in the lunchtime education sessions and workshops.

Table 6: Numbers of GPs and nurses participating in education

	Lunchtime education sessions	Workshop
GPs	13 (includes GP registrars)	10
NPs	N/A	4
Practice managers	0	N/A
Practice nurses	3	N/A
Locum GPs	N/A	5

3.2 Outcome 1: Increased uptake of ACP at target sites

ACP activity was measured using three different indices: use of the SoC, numbers of SoCs uploaded to The Viewer and after-death audit measures of evidence that ACP occurred.

3.2.1 Use of SoC as standard ACP document

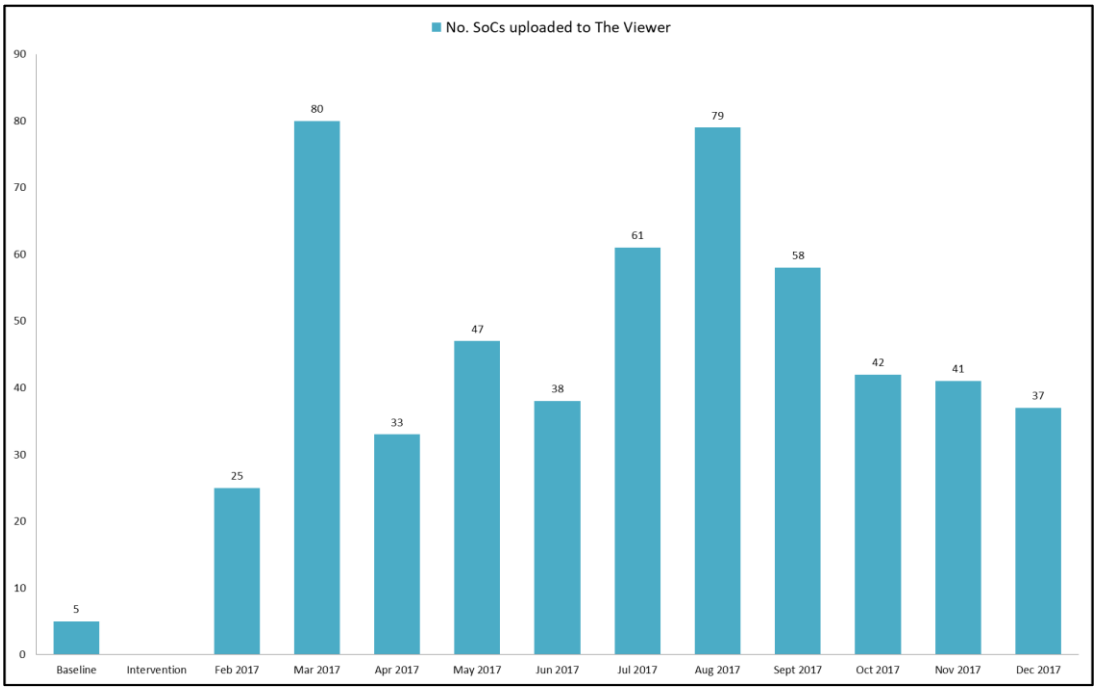
At the beginning of the project, 21 of the 31 RACFs were using the SoC as their standard ACP document. During the project, an additional 8 RACFs elected to replace existing ACP templates with the SoC.

As a percentage of audited deaths, use of the SoC increased from 24.6% pre-intervention to 60.0% post-intervention (chisquare = 28.24, df = 1, $p < 0.001$). Use of the Advance Health Directive and the Enduring Power of Attorney documents did not change significantly.

3.2.2 SoCs uploaded to The Viewer

The number of SoCs uploaded to The Viewer increased following the educational intervention with ACP champions which began in February 2017 (see Figure 2). The baseline data refers to the number of SoCs uploaded pre-intervention.

Figure 2: Number of SoCs uploaded to The Viewer



Limitations of this measurement of increased uptake of ACP are:

- Some RACFs did not use the SoC and, as only the SoC can be uploaded to The Viewer, any non-SoC documents could not be counted.
- Some residents/SDMs may have engaged in ACP discussions but elected not to complete a standardised advance care plan. Their wishes therefore would only have been recorded in the resident's notes.

For these reasons, the numbers of SoCs uploaded to The Viewer is likely to be an underestimate of ACP uptake in participating RACFs.

3.2.3 Measures in after-death audits

The after-death audits indicated a significant increase in the evidence of ACP activities after the intervention. The percentage of residents with documented end-of-life-care preferences increased

from 73.9% (105/142) pre-intervention to 88.2% (75/85) post-intervention (chisquare = 6.62, df = 1, p = 0.01).

3.3 Outcome 2: Improved health professionals' knowledge, confidence and skills concerning ACP

3.3.1 ACP champion education surveys

Response rate

Sixty-six of the 77 ACP champions returned the pre-education survey (89%) and 58 returned the post-education survey (78%).

Demographic data

Sixty-two (93.9%) respondents were registered nurses.

Approximately two-thirds of ACP champions (67.7%) had more than 5 years' experience working in residential aged care (see Table 7).

Table 7: Number of years' experience working in residential aged care

Years in RACF	N	Percent
Less than 1 year	2	3.1%
1 year to less than 5 years	19	29.2%
5 years to less than 10 years	21	32.3%
More than 10 years	23	35.4%
Total	65	
Missing	1	

Fifty-eight (90.6%) nurses indicated that the clinical role in caring for residents accounted for more than 50% of their workload.

The RACFs in which the ACP champions worked tended to be large, and the majority of ACP champions worked in facilities with more than 100 residents (see Table 8).

Table 8: Number of residents in the RACFs in which the ACP champions worked

Number of residents	N	Percent
Less than 50	6	9.1%
50-100	22	33.3%
More than 100	38	57.6%

Change in knowledge, skills, confidence and attitude

For ACP champions, across all topics surveyed, the increase in rated knowledge as a result of completing the education program was statistically significant (see Table 9).

Table 9: ACP champions' ratings of ACP related knowledge[#]

Topic	Pre-intervention Mean (SD) N=66	Post-intervention Mean (SD) N=58	95% CI[1]
ACP*	3.20 (0.73)	4.22 (0.56)	0.79, 1.26
The law related to ACP in QLD*	2.52 (1.03)	4.00 (0.77)	1.16, 1.81
Steps involved in getting a SoC uploaded to The Viewer*	2.38 (1.32)	4.26 (0.74)	1.49, 2.28
Accessing additional resources about ACP*	2.60 (1.09)	4.21 (0.64)	1.28, 1.93

* $p<.05$ in independent samples t-test
[1] 95% confidence interval for the difference between means pre- and post-intervention
Scale ranged from 0 (no knowledge) to 5 (extensive knowledge)

The self-rated skill levels of the ACP champions increased significantly on the three survey items from pre- to post-intervention (see Table 10).

Table 10: ACP champions' ratings of ACP related skills[#]

Activity	Pre-intervention Mean (SD) N=66	Post-intervention Mean (SD) N=58	95% CI[1]
Introducing discussions about the benefits of ACP with residents and/or their family*	3.17 (1.10)	4.40 (0.62)	0.91, 1.55
Teaching other RACF staff about the benefits of ACP*	3.08 (1.11)	4.33 (0.63)	0.92, 1.58
Explaining differences between ACP documents used in Qld*	2.36 (1.10)	4.17 (0.73)	1.47, 2.15

* $p<.05$ independent samples t-test
[1] 95% confidence interval for the difference between means pre- and post-intervention
Scale ranged from 0 (no ability) to 5 (high ability)

The ACP champions' confidence increased significantly after the educational intervention; they were more confident in approaching residents and GPs and in teaching other staff about ACP (see Table 11).

Table 11: ACP champions' ratings of confidence[#]

Activity	Pre-intervention Mean (SD) N=66	Post-intervention Mean (SD) N=58	95% CI[1]
Recognising appropriate time to introduce discussions about the benefits of ACP to residents and their family*	3.33 (0.97)	4.48 (0.57)	0.86, 1.44
Approaching the resident's GP to complete the resident's ACP*	3.61 (1.01)	4.59 (0.56)	0.68, 1.28
Teaching other facility staff about the benefits of ACP*	3.23 (1.08)	4.48 (0.63)	0.94, 1.58

* $p<.05$ in independent samples t-test
[1] 95% Confidence interval for the difference between means pre- and post-intervention
Scale ranged from 0 (not confident) to 5 (very confident)

The ACP champions' attitude to the importance of ACP did not change significantly as a result of the intervention. It was already high prior to the education intervention which is not surprising given their willingness to take on the role of ACP champion within their RACF. On a scale of 0 (strongly disagree) to 5 (strongly agree), the mean before the intervention was 4.73 and 4.88 after the intervention.

Rating of components in the education program

ACP champions rated all components in the educational program, whether compulsory or optional, as being extremely important in contributing to the development of ACP skills (see Table 12).

Table 12: ACP champions' rating of components of education program#

Activity	Mean (SD)	N
Online module	4.68 (0.47)	56
Workshop	4.82 (0.39)	54
Peer support activities		
Demonstration	4.85 (0.38)	13
Peer guidance	4.80 (0.41)	40
SoC critique	4.77 (0.43)	51
Small group discussion	4.74 (0.45)	49

Scale ranged from 0 (not important) to 5 (extremely important)

Comments from participants indicated how much they enjoyed the education program and the support and expertise of the project clinical nurses:

> *'It was a great learning experience to gain as well as share ACP knowledge with fellow RNs and care staff. Very educational and practical to make end-of-life care more effective.'*

'Much more confident in completing SoC now. Peer support went really well and is a great way to condense learning.'

'Peer support was very important for me in developing strategies to address challenging situations.'

'Facilitators are very supportive and have extensive knowledge in explaining the topics like its importance. Also recognises the efforts made by the ACP Champions. Thank you!'

3.3.2 GP education

Response rate

Nineteen GPs and NPs returned the pre-education survey (95%) and 20 returned the post-education survey (100%).

Demographic data

Six lunchtime education sessions were conducted and 3 workshops (one to locum GPs). Table 13 indicates the numbers participating in each event.

Table 13: Numbers of GPs and nurses participating in education

Health professional	Lunchtime education sessions	Workshop
GPs	13 (includes GP registrars)	10
NPs	N/A	4
Practice nurses	3	N/A
Locum GPs	N/A	6

Change in knowledge, skills, confidence and attitude at workshop

Fourteen participants (77.8%) were doctors, and 4 were NPs.

Ten (52.6%) participants were male and 9 (47.4%) were female.

The median age of participants was in the 51-60 year range (52.6%) and 13 (68.4%) had been in practice for more than 10 years.

The type of practice where GPs worked included partnerships (n=4), private GP practice (n=8), corporate positions (n=2) and other (n=4).

Participants in the workshop did not work exclusively in RACFs, and 15 of the 16 (93.8%) who answered a question about their practice answered that less than 25% of their practice was in RACFs. Furthermore, 10 of 18 participants did not attend RACFs. Of the 8 who did attend RACFs, 4 GPs reported attending more than 4 RACFs.

For all topics, the increase in rated knowledge by GPs and NPs as a result of attending the workshop was statistically significant (see Table 14).

Table 14: GPs' and NPs' ratings of ACP related knowledge[#]

Topic	Pre-intervention Mean (SD) N=19	Post-intervention Mean (SD) N=20	95% CI[1]
ACP*	2.50 (0.86)	4.05 (0.39)	1.12, 1.98
The law related to ACP in QLD*	1.90 (1.20)	4.00 (0.46)	1.52, 2.69
Steps involved in getting a SoC uploaded to The Viewer*	0.79 (1.23)	3.60 (1.27)	2.00, 3.62
Accessing additional resources about ACP*	1.50 (1.25)	4.00 (0.75)	1.82, 3.18

* $p<.05$ in independent samples t-test
[1] 95% confidence interval for the difference between means pre- and post-intervention
Scale ranged from 0 (no knowledge) to 5 (extensive knowledge)

Before the educational workshop, GPs and NPs rated themselves as low in ability to complete a resident's advance care plan, but this had increased significantly after the workshop (see Table 15).

Table 15: GPs' and NPs' ratings of ACP related skills[#]

Activity	Pre-intervention Mean (SD) N=19	Post-intervention Mean (SD) N=20	95% CI[1]
Ability to complete a resident's ACP*	1.95 (1.27)	3.80 (1.24)	1.04, 2.67

* $p<.05$ in independent samples t-test
[1] 95% Confidence interval for the difference between means pre- and post-intervention
Scale ranged from 0 (no ability) to 5 (high ability)

GPs and NPs were more confident after the educational workshops in initiating ACP discussions with residents, applying relevant law and completing a resident's advance care plan (see Table 16).

Table 16: GPs' and NPs' ratings of confidence[#]

Activity	Pre-intervention Mean (SD) N=19	Post-intervention Mean (SD) N=20	95% CI[1]
Initiating discussions about ACP at an appropriate time*	2.74 (1.33)	3.90 (0.88)	0.42, 1.90
Applying the law related to ACP in Qld*	1.79 (1.13)	3.74 (0.87)	1.28, 2.61
Completing a resident's ACP*	2.11 (1.41)	3.84 (0.90)	0.95, 2.52

* $p<.05$ in independent samples t-test
[1] 95% confidence interval for the difference between means pre- and post-intervention
Scale ranged from 0 (not confident) to 5 (very confident)

The GPs' and NPs' attitude to the importance of ACP did not change significantly as a result of the intervention. It was already high prior to the education intervention which is not surprising given their attendance at the workshop. On a scale of 0 (strongly disagree) to 5 (strongly agree), the mean before the intervention was 4.84 and 4.74 after the intervention.

3.4 Outcome 3: Improved levels of awareness and satisfaction with ACP

Eighteen residents and 12 SDMs completed a survey about their satisfaction with the procedure and the information they received during an ACP discussion with an ACP champion. The SDMs were all family members of the resident whom they spoke for. Basic demographic information was evaluated comparing the 18 residents who answered themselves, and the 12 residents who were represented by SDMs (See Table 17.)

Table 17: Comparison of demographic and health status information of residents

	Completed by resident N=18	Completed by SDM(s) N=12
Age 80+ years	89%	80%
Gender Female Male	 72% 28%	 67% 33%
Overall health Good Neither good nor poor Poor	 5 10 3	 3 6 3
Hospital admissions over last 12 months None 1 or 2 times 3 or more times Can't remember	 6 8 3 1	 5 5 2 0

Chisquare tests of association indicated that the groups did not differ significantly in terms of age, gender, overall health and number of hospitalisations over the last 12 months. As the groups did not differ statistically significantly, they were combined into one group of 30 residents for examination of satisfaction ratings.

3.4.1 Reactions to ACP discussions

The residents/SDMs considered it appropriate to hear about ACP while in the RACF, and were satisfied with the way the topic was introduced. Hearing about ACP was not confronting but rather a relief and they were given enough information to feel satisfied with their experience. Respondents preferred to hear about ACP from the facility nurse and considered that the nurse cared about them. Opinion was more divided on whether it would have been preferable to hear about ACP before moving into the RACF (see Table 18).

Table 18. Residents' and SDMs' reactions to ACP discussions

Statement	Disagree*	Uncertain*	Agree*
Would have preferred to hear about ACP before moving into RACF	44.8%	27.6%	27.6%
Fitting to be approached while in the RACF to hear about ACP	3.3%		96.7%
Satisfied with the way the nurse introduced the topic of ACP		3.3%	96.7%
Hearing about ACP was confronting for me	90.0%		10.0%
Hearing about ACP was a relief for me	10.0%	13.3%	76.7%
I got all the information I wanted about ACP	3.3%	3.3%	93.3%
Prefer to have ACP discussions with GP rather than facility nurse	56.7%	20.0%	23.3%
The nurse who spoke about ACP cared about me		6.7%	93.3%
Overall satisfied with experience of ACP		3.4%	96.6%

* Responses were recorded on a 6 point scale from strongly disagree to strongly agree. For purposes of clarity of reporting, the responses were reclassified into 3 categories: disagree (= strongly disagree and disagree), uncertain (=somewhat disagree and somewhat agree) and agree (=agree and strongly agree).

3.4.2 Importance and benefits of ACP

Residents and SDMs realised the importance and benefits of ACP after the discussion with the ACP champion and indicated that they planned to complete an advance care plan (see Table 19).

Table 19. Planned actions after hearing about ACP

Statement	Disagree*	Uncertain*	Agree*
The discussion convinced me of the importance of ACP		6.7%	93.3%
Has motivated me to talk to my family about ACP	10.0%	10.0%	80.0%
Since hearing about benefits of ACP, I plan to complete one		10.0%	90.0%

* Responses were recorded on a 6 point scale from strongly disagree to strongly agree. For purposes of clarity of reporting, the responses were reclassified into 3 categories: disagree (= strongly disagree and disagree), uncertain (=somewhat disagree and somewhat agree) and agree (=agree and strongly agree).

3.4.3 Prior ACP knowledge and actions

Before the ACP discussion, residents and SDMs revealed some awareness of issues and processes related to choices for future health care. The majority of residents had talked about future health care, were aware of ACP, and had appointed an Enduring Power of Attorney for Health, but only 24% had already completed an Advance Health Directive (see Table 20).

Table 20. Residents' arrangements before the ACP discussion

Statement	Yes
Had talked about choices for future health care	76.7%
Was aware of ACP	73.3%
Had formally appointed an Enduring Power of Attorney for Health	86.7%
Had informally chosen a person to make future health decisions	53.3%
Had already completed an Advance Health Directive	24.1%

3.5 Outcome 4: ACP preferences are respected

3.5.1 Dying in place of choice

Residents' preferred place of death had been recorded in 86.6% (N=123) of cases pre-intervention and 92.9% (N=79) of cases post-intervention. This trend towards an increase in proportion of recorded preferences post-intervention is not statistically significant (chisquare = 2.17, df = 1, p=0. 14).

Differences between residents' preferred and actual place of death were compared pre- and post-intervention (See Table 21).

Table 21. Actual versus preferred place of death

PRE-INTERVENTION				POST-INTERVENTION			
Preferred place of death	**Actual place of death**		**% dying in preferred place of death**	**Preferred place of death**	**Actual place of death**		**% dying in preferred place of death**
	RACF	***Hospital***			***RACF***	***Hospital***	
RACF	105	11	90.5%	**RACF**	59	16	78.7%
Hospital	0	7	100%	**Hospital**	0	4	100%
Not known	15	4		**Not known**	1	5	
Total	120	22		**Total**	60	25	

Pre-intervention, 90.5% of those residents who had indicated a preference to die in the RACF were able to do so, and post-intervention, this percentage decreased to 78.7%; a change that is statistically significant (chisquare = 5.27, df = 1, p = 0.022).

3.5.2 Hospital transfers

There were no significant differences from pre- to post-intervention as to whether, or not, a resident was transferred to hospital in the last week of life (see Table 22).

Table 22. Transfers to hospital in last week of life

	Pre-intervention % (N)	Post-intervention % (N)	P*
Transfer to hospital in last week of life	27.4% (37)	32.9% (28)	0.38

*p value from 1 df chisquare test of independence comparing pre- and post-intervention

Reasons for transfer to hospital in the last week of life were varied (see Table 23). Percentages are given but are based on very small numbers, as shown, and should be interpreted with caution. Reasons were not given for all admissions.

Table 23. Reasons for transfer to hospital in last week of life

Reason for transfer*	Pre-intervention % (N)	Post-intervention % (N)
Symptom management	20.0% (7)	44.4% (12)
Sudden unexpected deterioration or event	54.3% (19)	33.3% (9)
Following a fall	5.7% (2)	7.4% (92)
Request of resident or family	22.9% (8)	29.6% (8)
Request of GP	2.9% (1)	3.7% (1)
Other	8.6% (3)	(0)
Total	N=35	N=27

* Percentage is of reported reasons within time period and may be based on several reasons per resident.

The length of hospital stay did not differ significantly between pre- to post-intervention deaths (see Table 24).

Table 24. Length of hospital stay

	Pre-intervention N	Post-intervention N	Total
Not admitted	3	2	5
1 to 3 days	20	9	29
Greater than 3 days	13	16	29
Total	36	27	63

3.6 Outcome 5: Embedded policies/procedures/guidelines

Twenty-one managers returned the pre-education survey (67.7%) and 27 returned the post-education survey (87.1%).

Managers reported that for all items reported in Table 25, there was a statistically significant increase from pre- to post- intervention, indicating that as a result of the intervention managers had improved policies and procedures related to ACP.

Table 25: Audit of organisational policies and structures within participating RACFs[#]

Item	Pre-intervention Mean (SD) N=21	Post-intervention Mean (SD) N=27	95% CI[1]
In-service education about ACP*	2.71 (0.96)	3.78 (0.97)	0.50, 1.63
Educational materials re ACP available for residents*	3.00 (1.14)	4.19 (0.74)	0.64, 1.73
ACP is routinely discussed after admission*	3.91 (1.00)	4.48 (0.51)	0.13, 1.02
Residents who engage in ACP have plan filed in specific area of chart*	3.91 (0.94)	4.44 (0.58)	0.10, 0.98
Mechanisms for transferring ACP plans from RACF to hospital*	3.86 (0.73)	4.30 (0.67)	0.03, 0.85
Residents deaths reviewed to assess if preferences were met*	3.19 (1.03)	4.33 (0.68)	0.65, 1.64

* $p<.05$ in independent samples t-test.
[1] 95% Confidence interval for the difference between means pre- and post-intervention
Scale from 1 (lowest agreement) to 5 (highest agreement)

Further questions about ACP processes, were completed by managers who reported that their RACF had an ACP template for residents (see Table 26). Agreement was high before the intervention, however, there was still a significant increase in agreement after the intervention, suggesting the educational intervention resulted in improved ACP templates and processes within the RACFs.

Table 26: Specific items in the ACP template document and process#

Item	Pre-intervention Mean (SD) N=17	Post-intervention Mean (SD) N=24	95% CI[1]
Establish and document goals of care for each resident about ACP*	4.00 (0.35)	4.46 (0.51)	0.17, 0.75
Potential for regular review of resident's changes in preference*	3.77 (0.66)	4.50 (0.59)	0.34, 1.13
Potential to regularly review preferences with regard to life sustaining treatments*	3.71 (0.77)	4.54 (0.59)	0.41, 1.27

* $p<.05$ in independent samples t-test.
[1] 95% Confidence interval for the difference between means pre- and post-intervention
Scale from 1 (strongly disagree) to 5 (strongly agree)

4 DISCUSSION

This project, representing a collaboration between BSPHN and MSPCS, has well achieved its stated aim of supporting RACFs to embed an evidence–based ACP program, adapted for individual facilities, into routine clinical care to support high quality end-of-life care for residents. The high volunteer participation rate of the facilities, well in excess of target numbers, indicates their recognition of the need for such an intervention. The surveyed high satisfaction levels of RACF staff, residents and their significant others indicates that the intervention was well tailored and the content appropriate for the relevant groups. All the desirable short-term outcomes for the project were achieved which augers well for the long-term outcomes that could not be measured after a year.

4.1 Impact

4.1.1 Impact on ACP activity

The demonstrated increase in ACP activity, measured across the three indices of: implementation of the SoC, uploading of SoCs to The Viewer and after-death audit evidence of significant increases in clinical notes documenting use of ACP discussions to inform clinical care, is most important. It is evidence that, within participating RACFs, many more residents had the opportunity to express their end-of-life preferences and values thereby increasing the opportunity for residents to receive care aligned with their preferences and values.

The increased ACP activity in participating RACFs was maintained over the life of the project. It should be noted however, that the increased numbers of SoCs uploaded to The Viewer started to decline in the last three months of the project. The reasons for this are likely to be multifactorial – for instance, at that time the project clinical nurses were no longer routinely visiting the RACFs and the numbers of residents, suitable for the intervention, may have been approaching saturation.

As mentioned, more RACFs began using the SoC as a standardised ACP document as a result of the project. This has great potential to improve outcomes for residents as currently, this is the only ACP document that is electronically accessible to all Queensland Health employees, GPs and the Queensland Ambulance Service. Further, the increased use of the SoC demonstrates that RACF management accept it as suitable for residents with and without capacity.

4.1.2 Impact on knowledge, confidence and skills of aged care staff and GPs

ACP champions
Evaluation of the project ACP education program confirms the content was relevant to participants and resulted in nurses developing the knowledge, confidence and clinical skills necessary to undertake ACP discussions with residents and SDMs.

All components (online, workshop, peer support) of the education program were evaluated as important. While each component had a different aim, all focused on being clinically relevant:

- The online education concerned practice relevant to ACP and processes in Queensland.
- The half-day interactive workshop enabled participants to learn from each other, discuss and practice communication skills for ACP and identify strategies to successfully be an ACP champion within the RACF.
- The face-to-face peer support education within RACFs enabled consolidation of skills within the workplace.

As well as being effective the education was efficient, a most important consideration for the time poor RACF workforce[16]. Nonetheless, delivering the complete education program to 77 ACP champions given the geographical spread of the RACFs in the BSPHN area was challenging for project staff. The project nurses needed to have a flexible approach to working with RACF staff in order to organise all components of the education. In particular, delivering the peer support was project resource and time intensive however the project nurses and ACP champions indicated that this was a crucial component of the education. It enabled ongoing confidence building, clarification of questions and consolidation of skills. The participants valued the work of the project clinical nurses in this regard and in turn felt valued as nurses.

The feedback from ACP champions can be used to guide development of subsequent education interventions and resources to ensure sustainability of the intervention.

GPs and NPs
The knowledge, confidence and skills of participating practitioners increased significantly as a result of attendance at the workshops. Unfortunately, GP attendance at lunchtime education sessions and workshops was lower than the project team would have liked. This was not unexpected as it is well known that GPs, in general, are difficult to attract to end-of-life education. Further work needs to be done in this field to successfully engage GPs in RACF end-of-life care.

4.1.3 Impact on residents' levels of awareness and satisfaction with ACP

The findings from residents and SDMs surveys confirms self-reporting from ACP champions that the education resulted in increased clinical skills for initiating and holding ACP conversations. The residents/SDMs considered it appropriate to hear about ACP while in the RACF, were satisfied with the way the topic was introduced and the amount of information provided, and considered that the nurse cared about them.

Findings from the resident and SDM surveys support the findings of other studies reported in the literature; hearing about ACP is not confronting for residents and SDMs.[22] Nurses, inexperienced with ACP discussions, express a lack of confidence in undertaking ACP discussions but the project clinical nurses indicated that when the ACP champions realised how receptive residents/SDMs were to the discussion, their initial fears were overcome. This is an important message for RACF managers, nurses and GPs as the literature reports that a major barrier to ACP discussions is the attitude of health care professionals.[23]

Residents and SDMs also clearly stated that they preferred to hear about ACP from the facility nurse rather than the GP. This is another powerful positive message to disseminate to RACF managers and staff to support embedding ACP in clinical care within RACFs.

4.1.4 Impact on embedded policies/procedures/guidelines

Policies and procedures about ACP are essential to implementing ACP as part of routine clinical care within RACFs. As part of the project an *Example Policy and Procedure: Implementation of Advance Care Planning in Residential Aged Care Facilities* was provided to managers and ACP champions. At face-to-face meetings, the document was welcomed by participants. All acknowledged that the example policy and procedure would make it much easier to implement an

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[22] Stewart F, Goddard C, Schiff R, Hall S. Advanced care planning in care homes for older people: a qualitative study of the views of care staff and families. Age Ageing 2011. 40:330-335.doi:10.1093/ageing/afr006

[23] Lund S, Richardson A, May C. Barriers to advance care planning at the end of life: An explanatory systematic review of implementation studies. PLoS One 2015. 10: e01116629

evidence-based approach to ACP in the RACF. Many managers indicated they would incorporate the document directly into the RACF's policies and procedures documentation, whilst other managers needed to consult with representatives of the larger organisation.

Evaluation indicates that there was a system level change in participating RACFs' processes as there was an increased agreement with significant markers of evidence-based care such as in-service education about ACP, ACP discussions with residents and families on admission, educational material available for residents and families, review of deaths to assess if end-of-life preferences were met, and mechanisms for transferring ACP plans from the RACF to hospital.

4.1.5 Impact on hospital transfers

Being able to die in the nominated preferred place of death is often considered a clinical quality indicator for palliative care.[24] The vast majority of residents in this project indicated that they wished to die in their RACF, not hospital. Research has shown that implementing ACP in RACFs can reduce hospital admissions and length of hospital stay.[25,26] However the data from this current project are not aligned with that outcome. There are many possible explanations for this finding. Data, for this project was limited to hospital transfers in the last week of life, whereas much of the research is about end of life over a longer period and therefore the effect may have been missed.

It is also important to remember that while ACP is important for quality end-of-life care it is not sufficient. Achieving the goal of dying within a RACF is based on a complex interaction of many factors including resident's wishes, families' wishes (which may not align with resident's wishes as expressed in an advance care plan), the symptoms experienced by the resident, the clinical skills and experience of aged care staff, and clinical support from medical staff.

Advance care planning is only one aspect of palliative care and to achieve a RACF death, if that is the choice, requires not only that end-of-life wishes are known and accessible to clinicians but also that there is sufficient skills to provide end-of-life care within a RACF. Not all RACFs have this capacity, depending on the needs of the resident, and indeed the most appropriate place of death for some residents may be hospital. It is important to acknowledge that hospitalisation is not always a negative outcome.

This project was unable to assess the appropriateness or preventability of hospitalisations in the pre- and post-intervention groups. This would be a productive area of future research.

4.2 Evidence base for the cost effectiveness of implementing ACP programs

There is not a large evidence base concerning the cost effectiveness of implementing ACP programs in RACFs.

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[24] De Roo ML, Miccinesi G, Onwuteaka-Philipsen Bd et al EURO IMPACT. Actual and preferred place of death of home-dwelling patients in four European countries: making sense of quality indicators. PLoS ONE 2014. 9:e93762

[25] Caplan GA, Mueller A, Squires B et al. Advance care planning in the nursing home. Age Ageing 2006. 35:581-585

[26] O'Sullivan R, Murphy A, O'Caoirrh R et al. Economic (gross cost) analysis of systematically implementing a programme of advance care planning in three Irish nursing homes. BMC Res Notes 2016. 9:237 DOI 10.1186/s13104-016-2048-9

A recent systemic review indicated significant cost-savings in health costs associated with the introduction of ACP in RACFs.[27] This included the following reports:

- In a randomised control trial, following implementation of ACP, a significant decrease was found in both hospital costs (of $2,097) and total health care costs (of $1,839) per resident.[28]
- In RACFs in Singapore, per resident total health cost savings of SGD7,129 and SGD3,703 in the last three months and one month of life respectively were reported.[29]

Other individual studies have reported similar findings in RACFs.

- The introduction of ACP in RACFs has been shown to reduce hospitalisations, inpatient hospital days and ambulance transfers resulting in savings of $27.1 million per annum if the findings were extrapolated from 3 nursing homes in Ireland to the whole nation.[30]
- A cost benefit analysis of introducing ACP in three RACFs in Queensland estimated a net value of approximately $2 million over a period of 10 years.[31]

In the non-residential aged care population a few Australian specific studies have found the following:

- In Queensland, the state average of hospital days in the last six months of life for people who died in hospital was 26.4.[32] The average number of days that 600 people with documented advance care plans spent in hospital in their last six months of life was 18.8. This represents a reduction of 7.6 hospital days compared with the state average.
- In Australia, the mean total costs saved in a terminal admission if a Department of Veteran Affairs' client had been referred to a palliative care service was calculated as $5,364 per admission due to lower rates of admission into the intensive care unit, fewer coded procedures and lower costs for hospital accommodation, medical and diagnostic services.[33] Advance care planning is an integral part of palliative care and ACP has been shown to increase referrals to palliative care services. The data is probably the most robust that exists in Australia currently.

Clearly, more large scale, in-depth economic research is required in this field.

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27 Martin RS, Hayes B, Gregorevic K et al. The effect of advance care planning intervention on nursing home residents. J Am Med Dir Assoc 2016. 17:284-293

28 Molloy DW, Guyatt GH, Russo R et al. Systematic implementation of an advance directive program in nursing homes: A randomised controlled trial. JAMA 2000. 283:1437-1444

29 Teo WS, Raj AG, Tan WS et al. Economic impact analysis on an end-of-life program for nursing home residents. Pall Med 2014: 28:430-437

30 O'Sullivan R, Murphy A, O'Caoirrh R et al. Economic (gross cost) analysis of systematically implementing a programme of advance care planning in three Irish nursing homes. BMC Res Notes 2016. 9:237 DOI 10.1186/s13104-016-2048-9

31 Connelly LB. A cost-benefit analysis of the Respecting Patient Choices program. 2015. Greater Metro South Brisbane Medicare Local: Brisbane

32 Queensland Health. The Health of Queenslanders. 2016. Report of the Chief Health Officer. Queensland Government: Brisbane. Available from: https://www.health.qld.gov.au/_data/assets/pdf_file/0017/537101/cho-report-complete.pdf

33 Ireland, AW. Access to palliative care services during a terminal hospital episode reduces intervention rates and hospital cost: a database study of 19,707 elderly patients dying in hospital, 2011-2015. Intern Med J. 2017. 47(5):549-556. Available from: http://onlinelibrary.wiley.com/doi/10.1111/imj.13400/epdf

4.3 Challenges in achieving outcomes and response to challenges

Two major challenges for this project were the:

- Difficulty in engaging GPs
- High workload and turnover of RACF staff.

General practitioner attendance at lunchtime education sessions and workshops was lower than the project team would have liked. GPs are extremely busy with many competing demands for their time. It is generally recognised that many GPs place a lower priority on palliative care education than other areas. The project team, in consultation with BSPHN implemented many strategies to engage GPs e.g. asking RACFs to identify visiting GPs, visits by AAM from BSPHN to identified GP practices, a flexible approach to offering lunchtime education, and extensive advertising of workshops. If GPs cannot be encouraged to provide high quality end-of-life care in RACFs it may be useful to consider an alternative workforce to fill the gap, such as NPs in palliative care.

The high workload and turnover of RACF staff is well-documented.[34] To achieve the outcomes of the project, the project team had a flexible approach to working with RACF staff in order to accommodate meetings, peer support education and surveys with residents and SDMs. To ensure sustainability of the project intervention, it may be worthwhile considering the appointment of a small permanent education team that could provide recurrent education to RACFs within the BSPHN catchment area.

4.4 Factors contributing to the success of the project

A number of factors contributed to the success of the project and/or helped to meet the objectives and short-term desired outcomes of the project.

- Brisbane South PHN and MSH share a similar geographical area and commitment to improving the quality of end-of-life care for residents in RACFs enabling them to share strengths and resources to successfully meet the challenges of the project.
- The challenges faced by RACFs within the current climate of changing demographics and funding models are well documented. The participation rate of RACFs in this project demonstrates that when given the opportunity to engage in relevant activity, RACFs are prepared to devote significant resourcing to improve outcomes for residents and their families.
- The project took place in the context of increased awareness of, and interest in ACP and there was evident sector readiness to implement ACP. Metro South Health had recently implemented a system of having advance care plans uploaded to The Viewer enabling easy access to clinicians, GPs and the Queensland Ambulance Service. Management support has been shown to be important for the success of projects in RACFs.[35] The project intervention was designed to enable project clinical nurses to develop personal relationships with RACF managers via telephone, a structured one hour face-to-face meeting and email. All RACF managers completed an EoI, signed a MoU and

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[34] Belardi L. Unhappy workers: tackling the reasons why aged care staff leave. The Australian Agenda. January 2016. Available at: http://www.australianageingagenda.com.au/2016/01/27/tackling-why-staff-leave/

[35] Fildes D, Westera A, Masso M. Evaluation of the Encouraging Better Practice in Aged Care (EBPAC) Initiative: Final Report. 2015. Centre for Health Service Development, Australian Health Services Research Institute, University of Wollongong: Wollongong

supported ACP champions prior to project beginning - activities demonstrating a high level of commitment.

- The multi-level educational intervention targeted three levels: systems, care providers and residents/SDMs. Targeting more than one level in a RACFs is associated with success and sustainability of projects.[36]
- The vast majority of RACFs supported a minimum of two ACP champions. Having more than one champion has been shown to support change in RACFs in Australia.[37] A group of champions are able to provide support and encouragement to each other.
- The ACP champions valued the educational intervention and rated all components highly. The program was relevant, clinically focused and included different approaches to appeal to all individual learning styles i.e. short online education, face-to-face workshop and one-on–one in the RACFs.
- The intensive support from project clinical nurses working with RACFs was critical to maintain support and commitment of RACFs to engage in project activities including evaluation. This approach is costly in terms of resources but is associated with better outcomes.[38]
- The importance of the ACP champions' motivation should not be undervalued. Despite a high workload, ACP champions managed to complete the education program, engage in ACP discussions with residents and/or SDMs and complete surveys/audits. These nurses had a positive attitude to ACP, knew its value and believed it could save time and anguish in the longer term.

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[36] Fildes D, Westera A, Masso M. Evaluation of the Encouraging Better Practice in Aged Care (EBPAC) Initiative: Final Report. 2015. Centre for Health Service Development, Australian Health Services Research Institute, University of Wollongong: Wollongong

[37] Fildes D, Westera A, Masso M. Evaluation of the Encouraging Better Practice in Aged Care (EBPAC) Initiative: Final Report. 2015. Centre for Health Service Development, Australian Health Services Research Institute, University of Wollongong: Wollongong

[38] Fildes D, Westera A, Masso M. Evaluation of the Encouraging Better Practice in Aged Care (EBPAC) Initiative: Final Report. 2015. Centre for Health Service Development, Australian Health Services Research Institute, University of Wollongong: Wollongong

5 RECOMMENDATIONS

Ongoing commitment to improving end-of-life care for residential aged care residents is recommended with an emphasis on promoting sustainability of quality person-centred end-of-life care in RACFs in the BSPHN area.

Strategies would include:

- Target additional RACFs
  A rollout out of the multifactorial ACP intervention to additional RACFs within the BSPHN area is recommended as two-thirds of RACFs in the BSPHN have not been reached by the project.
- Broaden the scope of the project education
  While the focus of the project has been ACP, it is only one aspect of quality person-centred end-of-life care. In order to respect a resident's wishes, as expressed in an advance care plan, RACFs need to have the clinical skills to provide holistic quality end-of-life care within the RACF.

  It is recommended that a Residential Aged Care Palliative Approach Link Nurse (Link Nurse[39]) project be undertaken. The aim would be to increase the capacity of RACF staff to deliver a comprehensive, evidence-based palliative approach to care within RACFs and to improve resident and family outcomes through a program of ongoing relevant education, training and professional development activities. The training would focus on education, implementation and evaluation of the three clinical processes in a palliative approach to care - ACP, palliative care case conferences, and use of an end-of-life care pathway.
- Ongoing access to education resources
  Staff retention and turnover in aged care (estimated average annual turnover is as much as 25 per cent,[40] a significant and longstanding problem in the sector, means that RACFs need ongoing access to education about end-of-life care for replacement staff.

  The multifactorial education intervention implemented in the project needs to be converted to online resources that can be accessed by RACFs on an ongoing basis.
- Ongoing promotion and support
  Experience indicates that the development of resources and delivery of education alone will not lead to sustainable outcomes; stakeholder input and multi-level strategies are important to support implementation and sustainability. Provision of ongoing support for RACF nursing staff to provide quality end-of-life care will help to embed ACP into routine care. Such activities would include end-of-life conferences, a website with online educational resources, a regular blog and importantly permanent educational clinical staff.

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[39] The link nurse is a registered or enrolled nurses with an interest in palliative care and working a minimum of 0.6 FTE. The roles of the Link Nurse are to consistently promote and model the palliative approach to resident care, act as a palliative care resource for other staff, internally coordinate palliative approach education and training and liaise with the Specialist Palliative Care team for any support, collaborate with the RACF management team, GPs and other staff members in the coordination of a palliative approach within the facility, promote the use of evidence-based resource tools, and complete audits as part of quality improvement activities.

[40] Belardi L. Unhappy workers: tackling the reasons why aged care staff leave. The Australian Agenda. January 2016. Available at: http://www.australianageingagenda.com.au/2016/01/27/tackling-why-staff-leave/