REPORT

Clinical Monitoring, Economics and Evaluation

Living Well in Multipurpose Services in NSW

Evaluation report

NSW GOVERNMENT

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The Agency for Clinical Innovation (ACI) recognises the contribution of the members of the Living Well in Multipurpose Services collaborative evaluation governance committee.

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Local health districts and hospitals in NSW
The ACI acknowledges the MPS staff that participated in this evaluation, particularly the MPS key contact persons who assisted with the evaluation activities and the members of the MPS reference group.

A note about the images in this document

The Living Well in MPS advisory group was re-convened in early 2018 to participate in a formal reflective session with ACI. The focus of this session was to examine successes, barriers and challenges to implementing the Living Well in MPS key principles.

Throughout the reflective session, participants were asked what they considered to be the most significant change that occurred as a consequence of implementing the key principles. The images throughout this document show the participant responses to what they considered the most significant and meaningful change.

Participants in the Living Well in MPS key principles reflective session with ACI Rural Health Manager, Jenny Preece, Rural Health Network Co-Chair, Patrick Frances and ACI Chief Executive, Jean-Frederic Levesque.

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Acronyms and glossary

ACI	NSW Agency for Clinical Innovation
APDC	Admitted patient data collection
CFIR	Consolidate Framework for Implementation Research
Case control	A case control study is designed to help determine if an exposure is associated with an outcome. In terms of this evaluation, it compares those residents living in an MPS with those that don't but are of similar characteristics.
Denominator	The part of a fraction that is below the line and that functions as the divisor of the numerator
ED	Emergency department
EDDC	Emergency department data collections
HETI	Health Education and Training Institute
HoPeD	Hospital Performance Data Set
LGBTI	Lesbian, gay, bisexual, transgender, intersex
LHD	Local health district
MPS	Multipurpose services
NVivo 11	Qualitative research software used for data coding, analysis and interpretation
NSQHS	National Safety and Quality in Healthcare Standards
Numerator	The top number in a fraction (above the line)
OPQoL	Older People's Quality of Life
PPH	Potentially Preventable Hospitalisations
RACF	Residential aged care facility
SAPHaRI	Secure Analytics for Population Health Research and Intelligence
Separation	A health service event that occurs when an inpatient is: • formally discharged • transferred to another institution • absconds • dies while in care, or • changes care type: acute, rehabilitation, palliative, maintenance, geriatric evaluation and management, psychogeriatric care.
Statistical significance	The likelihood that a relationship between two or more variables is caused by something other than chance.
WHS	Workplace health and safety

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Overview of evaluation results

Key evaluation findings

The implementation of the Living Well in MPS key principles has been facilitated through a formal collaborative process involving ACI and 25 participating Multipurpose Services (MPS) across NSW. The collaborative supported staff to provide quality care to residents in MPS through the development of eight key principles and a toolkit to assist in implementation of these principles.

The principles, designed to improve the quality of life and wellbeing of residents living in MPS, comprise the following.

- Respect for rights as an individual
- Informed and involved
- Comprehensive assessment and care planning
- Homelike environment
- Recreational and leisure activities
- Positive dining experience
- Access to multidisciplinary services
- Expertise in aged care.

This evaluation used a series of questionnaires, completed by residents, carers, family and staff, self assessments, audits, staff interviews and administrative data to examine the extent that the standards were implemented, resident, carer, family and staff experience and benefits to the healthcare system. Outcome measures were collected through the use of the Older Persons Quality of Life Measurement (OPQoL) tool. The focus of this is on specific domains of quality of life, wellbeing, independence and relationships with others.

Some of these methods had small response rates. These limitations in sample size and data collection and the varying degrees of implementation of the principles found across MPS sites restricts the wider application of these results. However, there are some promising trends indicated as discussed throughout this report.

Due to these small numbers by site, this evaluation examined the implementation of the Living Well in MPS key principles as a whole rather than comparisons across sites. The administrative data analysis that examined acute admissions and emergency department encounters used a case control method to enable comparison of any differences between the MPS that implemented the key principles and those that did not. The case group refers to participating MPS in the implementation of the key principles and the control group refers to residents from MPS that have not participated.

The study period for this evaluation is 1 July 2016 to 30 June 2018 for the examination of administrative data and 1 July 2017 to 30 June 2018 for the remainder of data assessment.

Resident quality of life and wellbeing

Across the 12 month period of the implementation of the key principles, the evaluation found that resident scores for quality of life and sense of control and independence improved from 73% and 69% to 82% and 73% respectively. Staff perception of resident's quality of life and independence improved from 72% and 64% to 79% and 72% respectively.

Based on the OPQoL results, residents' perceptions of their quality of life improved in six out of eight of the quality of life domains. This ranged from 60% for independence and control over life before the key principles were implemented increasing to 64% after implementation. Life overall and social relationship domains remained unchanged. Physical and emotional wellbeing had the largest increase of 7%.

Systems benefits

While the control group (non-participating MPS sites) had increasing acute admissions and associated lengths of stay over the implementation period, the participating MPS decreased in acute admissions whilst the length of stay remained stable.

Similarly, the number of ED encounters as well as those with high urgency for individuals in the control group remained stable over the implementation. However, both outcomes decreased among the participating MPS.[*] These results may imply that care is provided to residents within the MPS when required and/or that residents' conditions are managed well in the participating MPS reducing the need for emergency responses.

Further investigation is needed to fully explain these differences once the key principles have been implemented and sustained for some time to examine trends and investigation of care type changes across MPS and inpatient services.

Implementation of the principles

Overall, the evaluation found that there are some promising trends between the implementation of the principles and improvements in the care and outcomes of residents in participating MPS facilities.

Overall the greatest outcomes recorded in questionnaire results were in the three key principle areas of:

- principle 2: informed and involved
- principle 6: positive dining experience
- principle 7: access to multidisciplinary services.

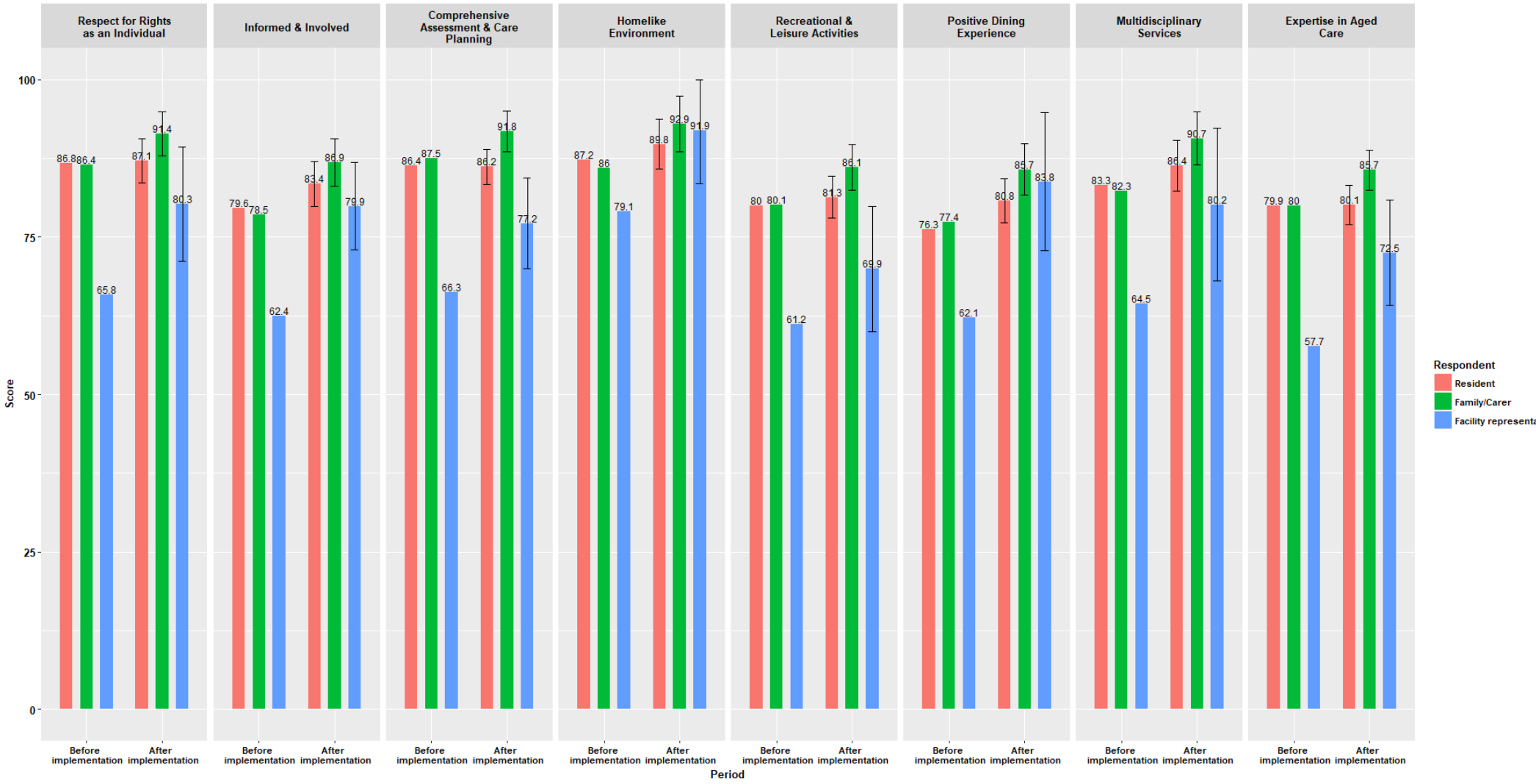
The least improvements were reported in principles:

- principle 1: respect for rights as an individual
- principle 3: comprehensive assessment and care planning
- principle 5: recreational and leisure activities.

Progresses in the eight key principles are summarised by principles and respondents in Figure 1.

[*] High urgency presentations are defined as those with triage categories of 1-3 (resuscitation, emergency, and urgent).

Figure 1: Respondent's checklist scores for the Key Principles before and after implementation of the key principles



Recommendations

The following are recommended to improve implementation of the key principles, planning and sustainability.

Respect for rights as an individual

1. Comprehensive assessment processes are to occur for all residents within 21 days of entry into the MPS. This is to include social profiling, risk stratification, needs and care planning that includes goals, recreational and leisure activities.
2. Leisure and recreational activities are to comprise organised activities through the MPS, family activities and community activities where relevant and noted by the resident in their care plans.

Informed and involved

3. Develop MPS training modules in person centred care and interpersonal skills.
4. MPS to hold regular gatherings where carers and families are encouraged to attend.

Comprehensive assessment and care planning

5. Define the role of assistant in nursing (AIN), registered nurse (RN) and enrolled nurse (EN) positions in assessment and care planning.
6. Define the scope of practice for assistant in nursing and enrolled nurse positions in screening, assessment and care planning.
7. Develop and deliver training in screening, assessment and care planning to enhance skills and confidence across MPS.

Homelike environment

8. Acknowledge that homelike environment is important and that the MPS is the resident's home.
9. Manage infection control so standards are met, that is by locating gloves, disinfectant and other products in more discreet areas.

Recreational and leisure activities

10. Encourage carers and families to provide activities for and with residents.
11. Build telehealth services as part of normal business; that is virtual visits with carers and family via teleconferencing and/or video-conferencing, access to multidisciplinary care and access to training for staff.
12. Actively seek intergenerational activities through volunteer recruitment.

Positive dining experience

13. Continue raising awareness and developing information to assist staff, residents, carers and families to be able to participate in normal living activities, for example: awareness of food safety standards through training packages and brochures to allow barbeques and shared meals, keeping chickens and growing vegetables for consumption.

Access to multidisciplinary services

14. Improve access to multidisciplinary care through telehealth.
15. Identify the need for multidisciplinary care for each resident through regular assessment and care planning.

Expertise in aged care

16. Enter discussions with training providers (Health Education and Training Institute – HETI, universities) to include an aged care lens in all training modules.
17. Identify key modules available through HETI training for staff and consider inclusion into annual performance activities.

Improvement planning and sustainability

18. Establish annual statewide and local health district (LHD) MPS benchmarking and information sharing forums to share ideas and lessons using strengths based approach.
19. Establish a buddy system for MPS across LHDs to be coupled with a high achieving MPS for support and assistance in making sustainable change.
20. Establish a robust minimum dataset for collection, reporting and planning to assist ongoing service and care improvement.
21. Raise the profile of aged care and MPS statewide through district leadership and statewide links through the MPS community of practice plan-do-study-act (PDSA) portal, forums and ongoing profiles in relevant media.
22. MPS to develop improvement plans and implementation strategies to address longer term goals (particularly for principles 1, 3 and 5).

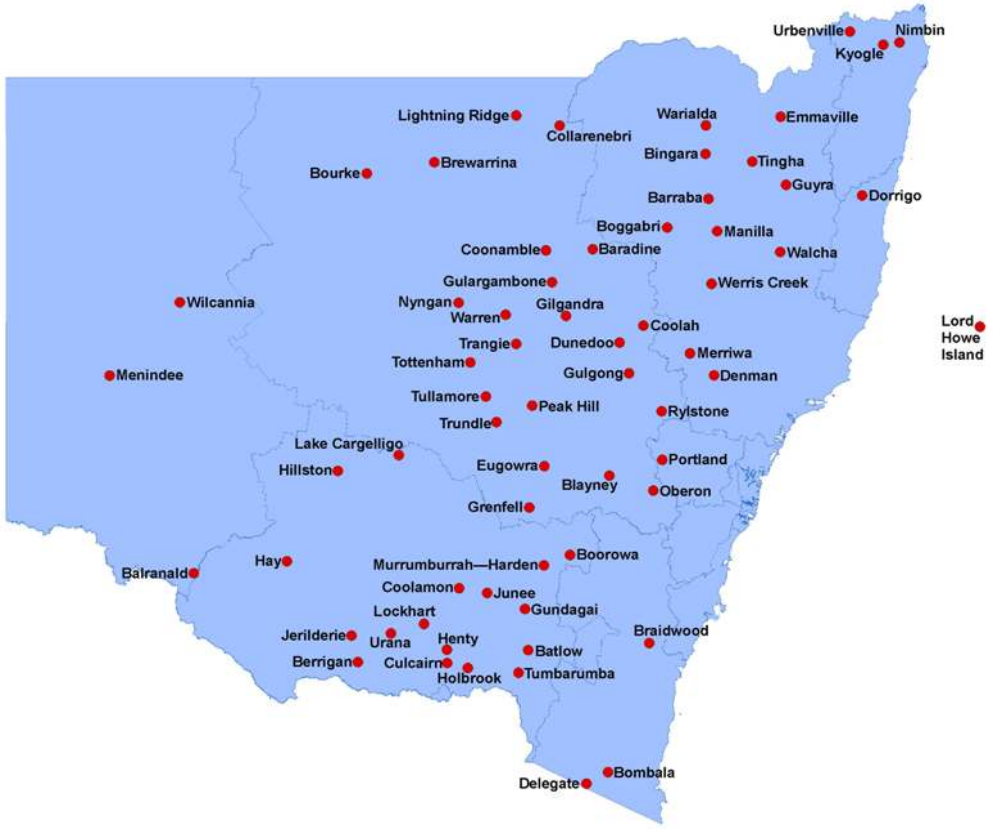
Introduction

Background

Multipurpose Services (MPS) are unique healthcare facilities that provide a combination of services including inpatient care (including respite and palliative care), emergency, allied health, primary health and residential aged care to meet the needs of the local community.

There are 64 MPS in operation across rural NSW with more MPS in the planning stage. (see Figure 2). MPS are accredited under the National Safety and Quality in Healthcare Standards (NSQHS), as they provide hospital services such as emergency and inpatient care, as well as residential aged care.

Figure 2. Locations of NSW MPS



Although the majority of people cared for in MPS are older residents (aged 65 years and over), MPS are not required to meet the current aged care standards as is the case with Commonwealth funded residential aged care facilities (RACFs).[1]

The Australian Commission on Safety and Quality in Health Care was funded by the Ministry of Health in 2014 to undertake mapping to identify gaps between the NSQHS and the Aged Care Standards (2018) in the following areas:

- homelike environment
- role of the person on their own care (resident-centred)
- cognitive impairment
- hydration and nutrition
- leisure activities and lifestyle.

In the interim, the ACI has worked extensively with local health districts (LHDs) and MPS to develop the Living Well in MPS principles and established the Living Well in MPS collaborative to facilitate and support the implementation of these principles. The collaborative has been designed to support staff in providing care for residents of MPS, not as patients in hospital, but as people living in their home.[2]

Establishing this collaborative involved a review of the evidence in relation to person-centred practice and encompassed a wide-ranging consultation and diagnostic phase with 10 MPS and two RACFs across regional and rural NSW.[2]

The Living Well in MPS collaborative had two overarching aims:

- to enhance the lifestyle, independence, wellbeing and quality of life of people living in MPS across NSW
- to support and assist staff to provide individually-tailored, resident-centred care to people living in NSW MPS.

The MPS reference group identified eight key principles designed to improve the quality of life and wellbeing of residents living in MPS.

1. Respect for rights as an individual
2. Informed and involved
3. Comprehensive assessment and care planning
4. Homelike environment
5. Recreational and leisure activities
6. Positive dining experience
7. Access to multidisciplinary services
8. Expertise in aged care.

Figure three provides further detail on each of the principles.

[2] For further information about the *Living Well in MPS* project, please visit: **http://www.aci.health.nsw.gov.au/resources/rural-health/multipurpose-service-model-of-care-project/mps-model-of-care-project-2015**

Figure 3. The Living Well in MPS Principles of Care

Living Well in MPS Toolkit

The Living Well in MPS Toolkit was developed to support MPS to optimise practice in relation to the eight key principles – in alignment with the Australian Department of Health Aged Care Service Standard 2 (Health and Personal Care) [3] and Standard 3 (Care recipient lifestyle) [4].

The Living Well in MPS Toolkit comprises the following.

PRINCIPLES OF CARE

The **Living Well in MPS Principles of Care** identifies and provides an overview of the evidence regarding the eight key principles designed to improve the quality of life and wellbeing of people living in MPS residential aged care facilities.

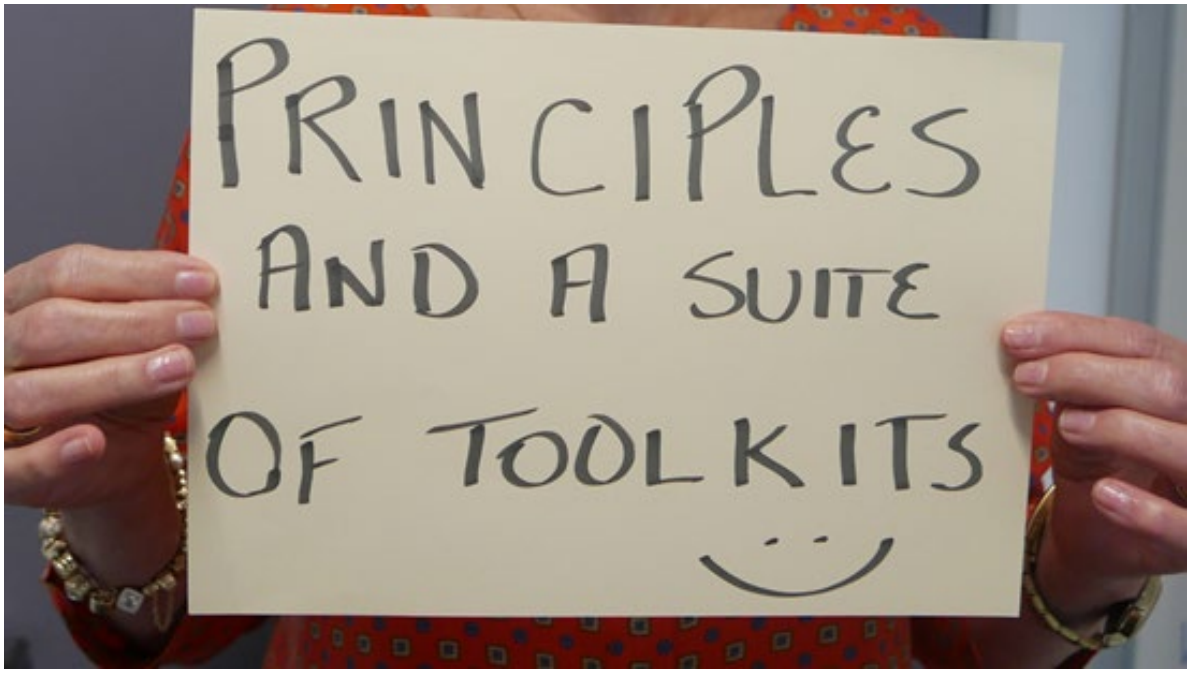
SELF-ASSESSMENT CHECKLIST

The Living Well in MPS organisational **Self-Assessment Checklist** contains a five-point rating scale that MPS can use to identify their current strengths and weaknesses in relation to each of the eight key principles and to prioritise and plan areas they wish to improve in the near future. Key MPS staff completed these checklists at the project outset and at the end of each action period (every three months). Simplified versions of the checklist were completed by residents, carers and families to ensure complete data triangulation between stakeholders.

Resource guide
The **Living Well in MPS Resource Guide** presented a range of evidence-based strategies and resources that MPS could use to foster improvements in relation to each of the eight key principles.

Evaluation package
The Living Well in MPS evaluation package comprised a monitoring and evaluation plan and the associated tools. Participating MPS used these to monitor their progress in relation to the eight key principles, as well as the overall progress of the collaborative.

Principles in practice report
The **Living Well in MPS Principles in Practice Report** highlights the small (and larger scale) changes implemented as a result of the MPS collaborative, with an emphasis on staff, resident, carer and family experiences. It describes specific case studies of changes implemented in MPS and highlights achievements across NSW.



Purpose

Why the evaluation was undertaken

ACI has undertaken this evaluation to examine the extent that the Living Well in MPS principles has been implemented across the 25 participating sites, enablers and challenges to implementing the principles, resident, carer and family, and staff experience throughout the implementation, resident wellbeing and impacts to the health system. The findings are presented in terms of what worked well and where further improvement is needed. These findings are intended to inform future scale up, and implementation of the principles across NSW.

The mechanisms of the management process to guide and support implementation of the principles is not included in this evaluation in detail. This was the focus of a separate and independent evaluation that was undertaken by Urbis Consulting Pty Ltd.

Data used for this evaluation

The evaluation used several data sources for the analysis.

CHECKLISTS

Immediate and intermediate outcomes of the implementation of the key principles were collected independently from three sources (residents, staff, carers and families) before, during and after implementation. Each source completed a tailored checklist, specific for their cohort.

- Organisational self-assessment: facility representatives (including management or other staff)
- Resident checklist: residents of the facilities
- Carer and family checklist: Carers and families of the residents living in MPS facilities

QUESTIONNAIRES

Broader indicators and outcomes (including residents' quality of life) were collected via two questionnaires before, during (every two months) and after the implementation of the key principles. The residents questionnaire focused on their relationship with staff, health and wellbeing. The staff questionnaire collected data on their perception about their capability in providing care and what they perceived to be the residents' quality of life.

The checklists and questionnaires are included in appendices for information.

AUDITS

Two sets of audit data were collected to examine provision of care (for example timing of giving residents handbook, and last multidisciplinary care plan) and staffing indicators (for example number of hours worked per week, and unplanned days absent from work in the last six months) before and after implementation of the key principles.

INTERVIEWS
Six months after the completion of the collaborative, semi structured interviews were conducted at four MPS with clinical, hotel services and management teams at sites to explore enablers and challenges experienced in implementing the principles.

ADMINISTRATIVE DATA
Record-linked hospital administrative data including admitted patient and emergency department (ED) data collections (APDC and EDDC) were used to examine the impact of the key principles on the health system. The investigation period was defined between 1 July 2016 and 30 June 2018, with three balanced eight-month periods as before", during and after the implementation of the key principles, equivalent to the actual implementation phases. A case control method was used with 'case' referring to the 25 participating MPS, and 'control' being other MPS.

RECOMMENDATIONS
The draft report was presented to the MPS reference group and discussed at length to formulate the recommendations contained in this report.

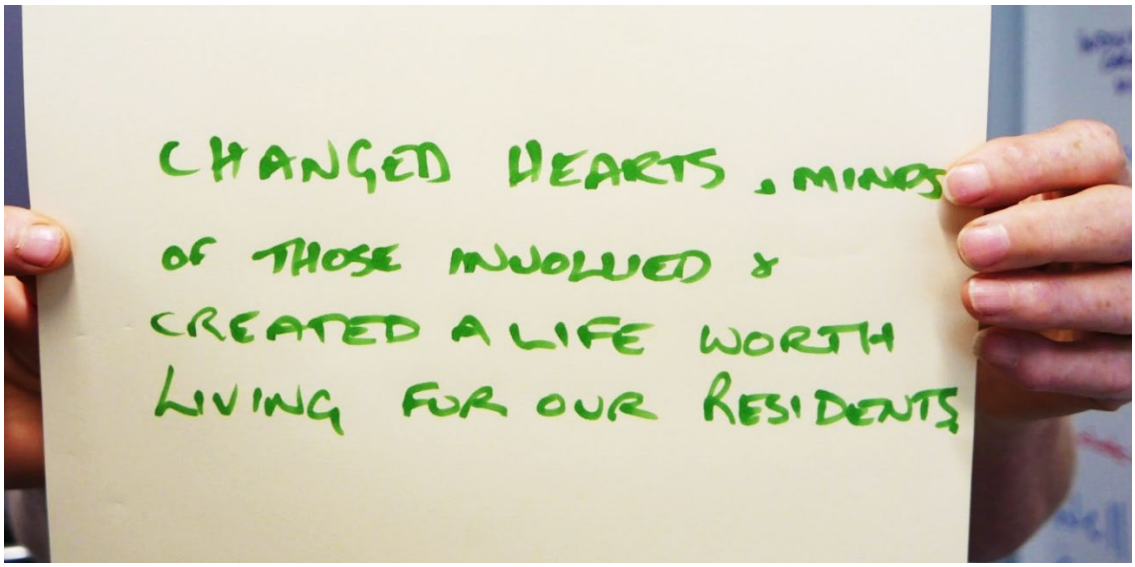
Detailed information about methods is contained in the appendices.

Limitations
Analysis included the examination of equal time points of comparison before and after implementation of the key principles. Replication of this investigation with longer time periods will better identify sustainable patterns and enable more generalisation of results. Individuals who were identified as the residents of MPSs across NSW are mostly those who died within the investigation period (due to using separation methods for resident identification). Replication in future analysis will capture all residents and their service use following implementation of the key principles.

Findings were based on limited adjustments including adjusting for demographics and person-period contribution. Inclusion of residents' health status pre-implementation and use of finer scales coupled with larger sample sizes will provide more robust results.

Results

Implementation of the Living Well in MPS principles



Principle 1: Respect for rights as an individual
The foundation of this principle is that the resident is respected as an individual with emphasis on rights, quality of life and wellbeing as defined by the individual and their carer and family.

This principle had the lowest ranking improvement overall, however, scores were relatively high from the outset. Resident's scores for respect for rights as individual principle was 87% before the implementation of the key principles and remained unchanged after implementation. Carer and family and facility representative scores improved from 86% and 66% to 91% and 80%, respectively, after implementation.

Compared to younger residents, those aged 70 years and older reported higher scores on this principle. Youngest residents reported lower scores for respects for rights as an individual principle after implementation of the key principles, whereas those aged 80 years and older reported higher scores.

Carers and family of residents with the shortest stay in facility (0-1 year) reported higher scores for those respects for rights as an individual.

Staff perceived that residents' rights had increased since the implementation of this principle. Interviews with staff supported these findings with staff reporting that residents had more autonomy in their decision making. Although these reports provide positive feedback regarding an improvement in this principle, residents, carers and families were not interviewed to add further merit to this.

Dignity of risk is closely associated with this principle and without careful profiling and planning for residents, resident autonomy in their own decision making was thought to be limited if the MPS considered that these decisions were outside their duty of care. To mitigate against this, MPS staff see the benefit of all staff being responsible for providing information to residents and working consistently with residents care plans, goals and leisure activities.

RECOMMENDATIONS

1. Comprehensive assessment process is to occur for all residents within 21 days of entry into the MPS. This is to include social profiling, risk stratification and needs and care planning that includes goals, recreational and leisure activities.
2. Leisure and recreational activities are to comprise organised activities through the MPS, family activities and community activities where relevant and noted by the resident in their care plans.

Principle 2: informed and involved

Principle 2 is associated with the resident, carer and family receiving timely and appropriate information at entry to care and at regular intervals.

Residents' scores for informed and involved principle improved from 80% to 83% after implementation of the key principles. Carer and family and facility representative scores also improved from 79% and 62% to 87% and 80%, respectively, after implementation.

Compared to younger residents, those aged 70 years and older reported higher scores for this principle. Residents from smaller MPS (with a smaller bed base and lower number of residents) reported higher scores for informed and involved principle after implementation. Conversely, residents from larger MPS reported lower scores for this principle.

Through interview of staff at sites and assessment of the baseline and final assessment questionnaires for residents, carers, families and staff at all sites, it was concluded that this was an area where all MPS sites were improving.

It was considered by the MPS reference group that smaller sites find it easier to check in and inform all residents of changes and provide timely information. These staff are more likely to be part of the local community and familiar with residents, their carers and families.

It was noted that keeping residents informed and involved required a high level of interpersonal skills and where staff had come directly from clinical wards, the focus was on completing tasks rather than spending time with residents to keep them involved. Several staff noted that they felt guilty if they sat with residents when there were tasks to complete.

Although MPS are improving in this principle, further improvements will require attitudinal and cultural shifts and improved training in aged care. Many respondents believe that aged care knowledge and training is a lens that can be applied to all clinical training rather than a specialty in itself as the only option to gain these skills. This needs to be broad and cover areas such as nutrition and oral care.

RECOMMENDATIONS

3. Develop MPS training modules in person-centred care and interpersonal skills.
4. MPS to hold regular gatherings where carers and families are encouraged to attend.

Principle 3: comprehensive assessment and care planning

This principle espouses the participation of residents in their own comprehensive assessment and that plans are reviewed regularly.

Residents' scores for comprehensive assessment and care planning principle was 86% before implementation of the key principles and remained unchanged after implementation. Carer and family and facility representative scores improved from 88% and 66% to 92% and 77%, respectively, after implementation.

Compared to female residents, males reported higher scores for comprehensive assessment and care planning. Those aged 70 years or older, compared to younger residents, reported higher scores for this principle. Compared to residents with the shortest stay in facility (0-1 year), those who stayed between 2-5 years reported lower scores in comprehensive assessment and care planning. Carers and family of residents aged 90+ years reported a higher score for comprehensive assessment and care planning principle after implementation.

Many MPS reported this principle as challenging to implement and scores from the questionnaires reflect this. This principle had the second lowest score improvements overall. This was the only principle where the average score at the final resident questionnaire point was lower than at baseline by 0.2, however the score differences are not significant.

Many MPS facilities noted the resource intensiveness of manual data collection and sharing care plans amongst different staff. Subsequently, there are MPS where staff are unaware of resident care plans.

A common theme mentioned by staff was how do they know what care is needed. This is closely associated with principle 2 – informed and involved. Where there was a culture of spending time with residents, staff had a clearer idea of what care was needed and when. This occurred predominantly in smaller MPS. The larger MPS reported the perception that staff thought they knew what residents needed and that they were responsible for providing this. In all MPS, only a few staff considered it their responsibility to undertake assessments and care planning. Many staff noted that they were unaware of any standards and consistent processes for these activities.

RECOMMENDATIONS

5. Define the role of assistant in nursing, registered nurse and enrolled nurse positions in assessment and care planning.
6. Define the scope of practice for assistant in nursing and enrolled nurse positions in screening, assessment and care planning.
7. Develop and deliver training in screening, assessment and care planning to enhance skills and confidence across MPS.

Principle 4: homelike environment

The resident lives in a homelike environment which involves freedom and choice in routines.

Residents' scores for homelike environment principle was 87% before increasing to 90% after implementation of the key principles.

Carer and family and facility representative scores improved from 86% and 79% to 93% and 92%, respectively, after implementation.

Compared to residents with the shortest stay in facility (0-1 year), those who stayed between 2-5 years reported lower scores in the home like environment principle. Residents from smaller MPS reported higher scores for homelike environment principle after implementation of the key principles. On the other hand, residents from larger MPS reported lower scores for the aforementioned principle. Residents from MPS with higher staff per bed ratio reported lower scores for the above principle after the implementation.

Despite not being rated as one of the top principles, interview responses suggested that this principle posed one of the least challenging to implement, as staff perceived giving residents choice over decisions such as the time of day they showered as being crucial to residents' having a say in their own routine and they perceived patient satisfaction with the changes implemented across all sites.

'Hotel services weren't always included in clinical-type projects but this wasn't a clinical project, so we actually got good engagement from hotel services, they had great ideas and came up with some great things because this time we'd actually asked. I don't think we were good at that previously.'

'We don't want it to be just a homelike environment, it is their home.'

Some of the improvements made in this area included better planning for how and when residents wanted care, creating homely dining rooms, purchasing of crockery and cutlery, placing salt and pepper shakers on the tables, allowing pets such as birds and cats to be part of the MPS.

Other activities undertaken in providing a homelike environment included the creation of vegetable gardens and keeping chickens. One MPS painted residents' doors similar to the front door from their previous housing in the community and in acknowledging that the MPS is the residents' home, sought resident approval before holding events and functions within the MPS, their home.

RECOMMENDATION

8. Acknowledge that homelike environment is important and that the MPS is the resident's home.
9. Manage infection control so standards are met, that is by locating gloves, disinfectant and other products in more discreet areas.

Principle 5: recreational and leisure activities

The intent of this principle is for residents to be able to maintain personal and social relationships and access a range of activities that are meaningful and maintain links to the community.

Residents' scores for recreational and leisure activities principle was 80% before implementation of the key principles and no significant change was evident after implementation (81%). Change in facility representative scores went from 61% to 70%. Carer/family scores improved from 80% to 86% after implementation.

The carers and families of patients aged 70 years and older reported lower scores for recreational and leisure activities. Carers and family of residents with the shortest stay in facility (0-1 year) reported higher scores for recreational and leisure activities principle after implementation.

Overall the staff questionnaire scores on this principle are the lowest recorded final scores, much lower than the scores of the residents and carers and family scores. Staff interviews indicated here that one of the frustrations of staff was the risk averseness of their MPS sites limiting the activities they could do with residents. Staff were able to identify a range of leisure activities that they believed residents would enjoy but the work health and safety (WHS) concerns prevented this from happening.

'It really made things difficult for when does that risk become too high, or if they have high risk here but there are other risks down here.'

This principle is closely related to principle 3 and is considered important for comprehensive care planning, social profiling and risk stratification to better balance duty of care and resident goals. It is aptly referred to as dignity of care.

Staff noted that recreational activities are the responsibility of all staff, carers, family and residents, not just the recreational officer. Some MPS encourage residents to organise and host events whilst another held a regular café where the aim is to create a community within the MPS. Another approach is to ask anyone attending an event (meeting, consultation) at an MPS to spend some time with residents, for example participate in a morning tea.

RECOMMENDATIONS

10. Encourage carers and families to provide activities for and with residents.
11. Build telehealth services as part of normal business; that is virtual visits with carers and family via teleconferencing and/or video-conferencing, access to multidisciplinary care and access to training for staff.
12. Actively seek intergenerational activities through volunteer recruitment.

Principle 6: positive dining experience

This principle relates to residents experiencing enjoyable dining experiences. Meals are varied, nutritious and appetising, served in a calm environment with adequate access to drinking water.

Residents' scores for positive dining experience principle improved from 76% to 81% after implementation of the key principles. Carer and family and facility representative scores also improved from 77% and 62% to 86% and 84%, respectively, after implementation.

Compared to female residents, males reported higher scores for positive dining experience principle. In addition to this those aged 70 or older reported higher scores on this principle compared to younger residents.

Residents with the shortest stay in facility (0-1 year), reported lower scores in the positive dining experience principle compared to those who stayed between 2-5 years. Female residents and their carers and families reported higher scores for positive dining experience after the implementation. Carers and family of residents with the shortest stay in facility (0-1 year) reported higher scores for positive dining experience principle after implementation.

Residents from MPS with lower staff per bed ratio reported higher scores for positive dining experience after the program implementation. On the other hand, residents from MPS with higher staff per bed ratio reported lower scores for the above principle after the implementation.

This principle by far was the greatest area of improvement identified by staff, residents, and carers and family. Interviews with staff highlighted that changes in dining experience were identified as the most positive changes made. Despite this, the variations in changes discussed ranged from some sites placing salt and pepper shakers on tables to other sites that changed the menus available to residents providing choices at meal times.

The engagement with HealthShare NSW to implement this principle was noted universally across sites as one of the most meaningful partnerships. HealthShare NSW staff noted in interviews that they felt included and therefore given permission to work with other staff to make changes and improve the care and experiences for residents. All perceived this as the start of eradicating the previously accepted norms and the first activities of removing single use condiments and replacing with salt and pepper shakers provided traction for further improvements in this principle.

Some staff felt that HealthShare NSW staff that were offsite had a more top down approach than those located at the MPS and with fresh cooks. Offsite staff had valid concerns about food safety standards, particularly for non HealthShare NSW cooking (family or staff cooked barbeques), food bought in externally, the keeping of chickens and vegetable gardens. These were overcome by the development of a series of awareness and instructional resources on safely keeping chickens and how to maintain food safety standards. A volunteer training package on food safety was developed and delivered.

RECOMMENDATIONS

13. Continue raising awareness and developing information to assist staff, volunteers, residents, carers and families to be able to participate in normal living activities, for example: awareness of food safety standards through training packages and brochures to allow barbeques and shared meals, keeping chickens and growing vegetables for consumption.

> ‘Yeah, I think you need to start with that stuff and show everybody how easy and how fun and rewarding it is before you probably bring in the big chunky not so fun stuff.’

Principle 7: multidisciplinary services

This principle relates to resident access to person-centred care provided by multidisciplinary services according to resident needs, choices and availability, to maximise functional ability and quality of life.

Residents' scores for multidisciplinary services was 83% before implementation of the key principles and no significant change was evident after the implementation (86%). Carer and family and facility representative scores improved from 82% and 65% to 91% and 80%, respectively, after implementation.

Compared to younger residents, those aged 70s and older reported higher scores for this principle. However, residents with the shortest stay in facility (0-1 year), reported lower scores on the principle of multidisciplinary services compared to those who stayed between 2-5 years.
Carers and families of female residents reported higher scores for all other principles, except for access to multidisciplinary services. Residents from smaller MPS reported higher scores for access to multidisciplinary services principle after implementation. On the other hand, residents from larger MPS reported lower scores for this principle.

Multidisciplinary care is one of the more difficult principles to implement across MPS due to limited resourcing and the principle indicating multidisciplinary care as a universal goal for all residents rather than one targeted at residents that will derive benefit.

Virtual telehealth models are being trialled by Western NSW and Murrumbidgee LHDs with promising results. In Western NSW this has included in-room consultations for residents with special needs, on topics such as dietetics, and has included some upskilling of staff to assist in smooth facilitation of the process. In Murrumbidgee telehealth has been established across all MPS with outreach physiotherapy, pop up fracture clinics, specialist medical appointments and allied health support.

RECOMMENDATIONS

14. Improve access to multidisciplinary care through telehealth.
15. Identify the need for multidisciplinary care for each resident through regular assessment and care planning.

Principle 8: expertise in aged care

The foundation of this principle is for MPS to provide leadership to enable staff to develop expertise in aged care and the delivery of resident-centred care.

Residents' scores for expertise in aged care was 80% before implementation of the key principles and remained unchanged after implementation. Carer and family and facility representative scores improved from 80% and 58% to 86% and 73%, respectively, after the implementation of the key principles.

Carers and families of residents with the shortest stay in facility (0-1 year) reported higher scores for expertise in age care principle after implementation. Residents from the same age group only reported higher scores for respect for rights as an individual principle.

Residents from smaller MPS reported higher scores for expertise in aged care principle after implementation. On the other hand, residents from larger MPS reported lower scores for this principle. Residents from MPS with lower staff per bed ratio reported higher scores for expertise in aged care principle after the implementation. In comparison, residents from MPS with higher staff per bed ratio reported lower scores for the above principle after the implementation.

It was acknowledged throughout interviews that staff training and awareness in aged care was needed but being busy places, there was limited time for staff to do this. There are good HETI modules online, though it was stated that face to face training may provide additional benefit enabling participants to question and examine course material in more detail with trainers and other participants.

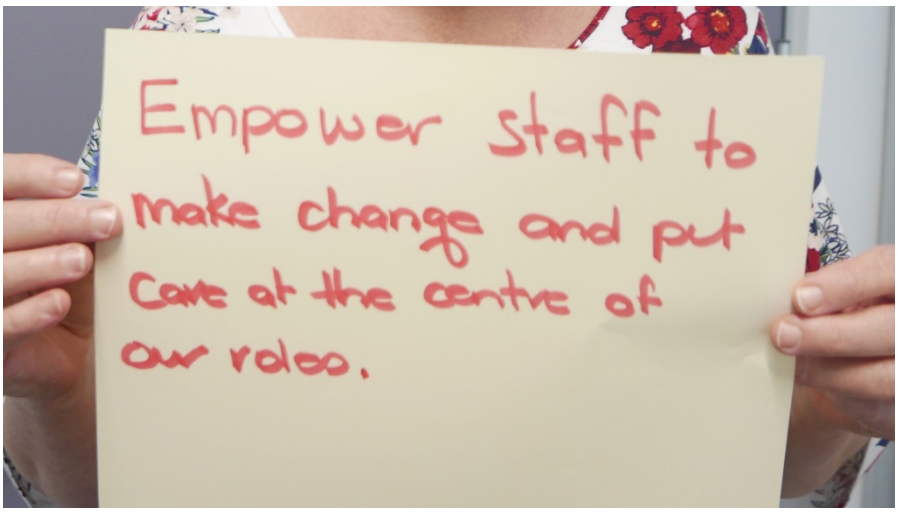
Priority training requirements were discussed with the MPS reference group and comprised:

- pain management
- challenging behaviour and dementia
- continence management.

These are included modules in the HETI online training.

RECOMMENDATIONS

16. Enter discussions with training providers (for example HETI, universities) to include an aged care lens in all training modules.
17. Identify key modules available through HETI training for staff and consider inclusion into annual performance activities.



Overall positive trends by respondent group

Residents perspective

Before implementation of the key principles, residents scored the eight key principles between 76% (positive dining experience) and 87% (homelike environment). Despite increases in most of principles' scores, only informed and involved (80% to 83%), and positive dining experience (76% to 87%) principles had statistically significant improvements. In this evaluation, statistical significance implies that the change is caused by the implementation of the key principles.

Carers and family perspective

Before implementation of the key principles, carers and families scored key principles between 77% (positive dining experience) and 88% (comprehensive assessment and care planning). They reported statistically significant improvements across all principles. The greatest improvements were of over 8% and occurred in informed and involved, positive dining experience, and access to multidisciplinary services principles. The scores of the remaining principles increased between 5% and 7%.

Carers and families of residents from smaller MPS also reported higher scores for five out of eight principles after the implementation of the key principles.

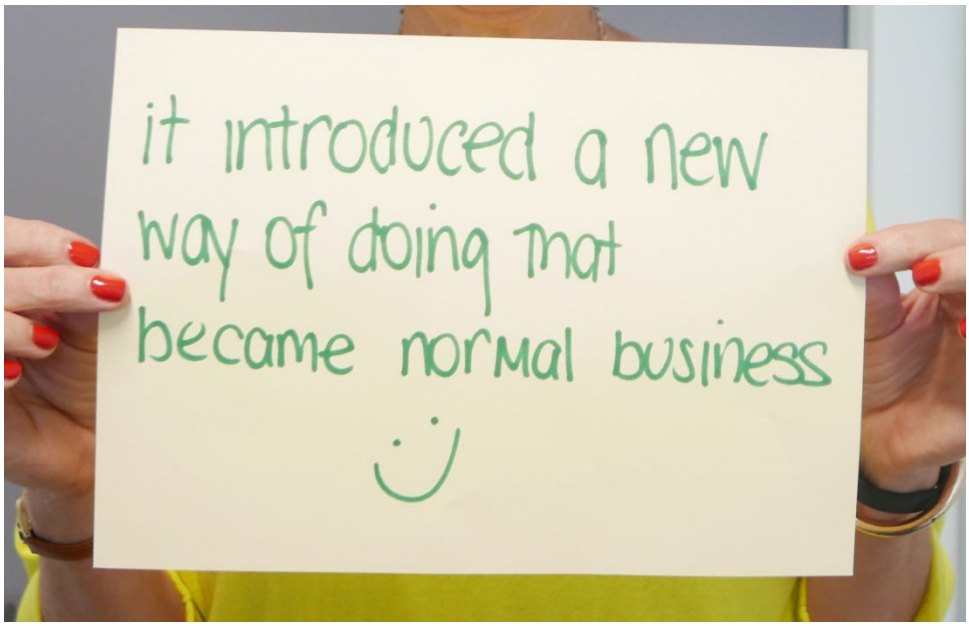
Carers and families of residents from MPS with lower staff per bed ratio reported higher scores for six out of eight principles after implementation of the key principles.

Carers and families of residents who visited daily reported higher scores for five out of eight principles after the implementation of the key principles. Those with least frequency of visits reported lower score for recreational and leisure activities principle.

Facility representatives perspective

Before implementation of the key principles, facility representatives scored key principles between 61% (recreational and leisure activities) and 66% (comprehensive assessment and care planning). They reported statistically significant improvements in all principles, except recreational and leisure activities. The greatest improvements were 21% and 17% in positive dining experience, and informed and involved principles, respectively. The scores of remaining five principles increased between 11% and 16%.

MPS facilities that had implemented the principles to a higher extent than other MPS were more likely to have placed a priority on data collection, committed resources, implemented regular review processes and used data to identify and monitor specific improvement initiatives. Some sites have established governance processes to report and review this data over time which has assisted with engagement and improvement.



Impact on the healthcare system

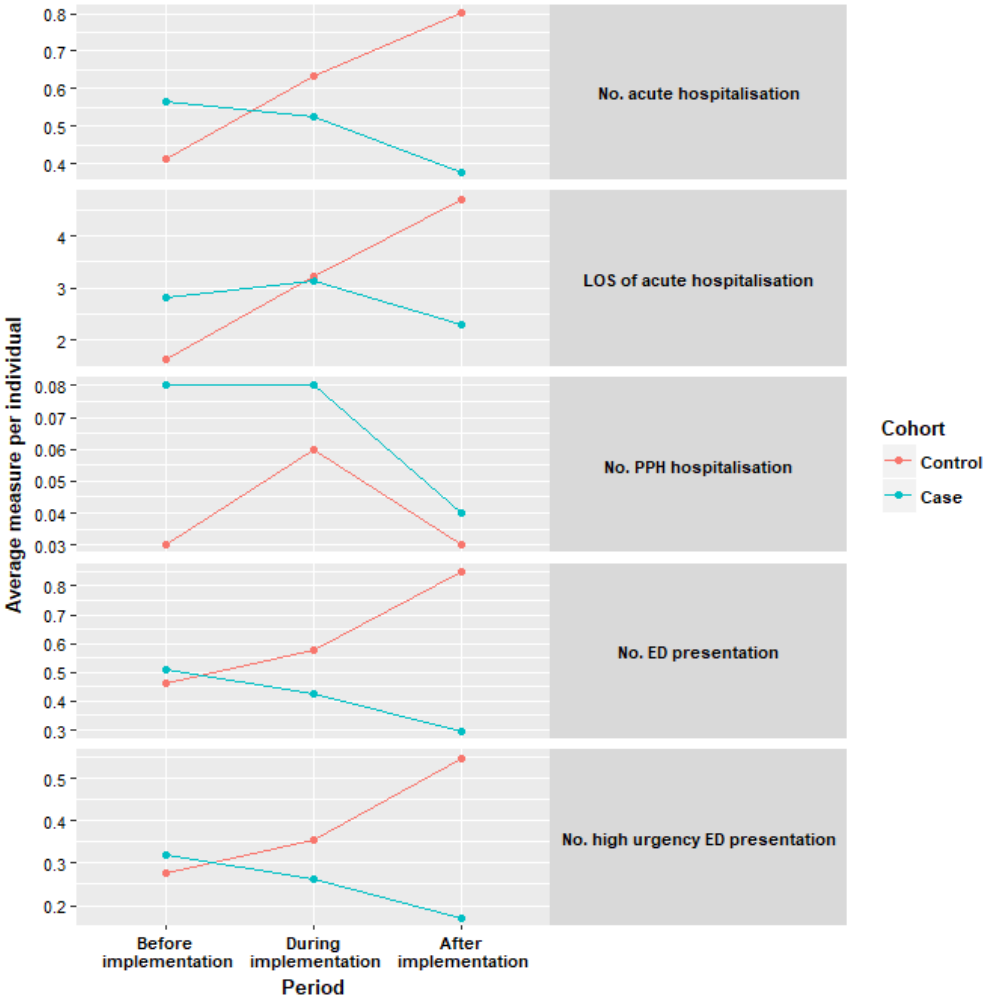
Using a case control method, there are benefits indicated for participating MPS post implementation of the principles. It must be noted that the results are indicative only and a longer period is required to determine changes in the case and control groups and sustainability of those changes.

Hospitalisations

The number of acute separations and associated average length of stay for individuals in the control group (non participating MPS) increased by 96% (0.8 vs 0.4 separations) and 186% (4.7 vs 1.6 days), respectively, over the investigation period of 1 July 2016 to 30 June 2018, (after vs. before implementation). However, the number of acute separations for individuals residing in participating MPS (case group), decreased by 44% (0.37 vs 0.56 separations), while their length of stay remained stable (2.3 and 2.8 days).

Staff indicated that the change from acute care to MPS care and implementation of the principles (specifically regular assessment and care planning) at participating sites has enabled MPS staff to be more responsive and agile in addressing resident care, therefore, avoiding some acute admissions.

Figure 4. Trends for hospital use measures by case and control groups over the investigation periods.



The top three causes of hospitalisation (based on twenty International Statistical Classification of Diseases and Related Health Problems 10th ed. (ICD10) chapters for principal diagnoses, unspecified causes and factors influencing health status and hospitalisations were excluded) for both cohorts over the investigation periods were diseases of respiratory system, injury and poisoning, and diseases of circulatory systems, together accounting for a third of all hospitalisations.[5]

The number of potentially preventable hospitalisation was low and no difference across periods and between groups was evident.

Emergency department encounters

The average number of ED encounters as well as those with high urgency for individuals in the control group remained stable over the implementation period (after vs. before). However, both outcomes decreased among the case group by 43% (0.51 vs 0.39) for all ED presentations and 47% (0.17 vs 0.32) for high urgency presentations. High urgency presentations are defined as those with triage categories of 1-3 (resuscitation, emergency, and urgent).

This may be due to ongoing care provided to MPS residents resulting in less urgent and acute episodes. Staff noted the collaboration within a site that contained inpatient care and MPS provided benefit in enabling residents care to be better managed and thus avoid ED encounters.

Table 1 shows the impact on the healthcare system by case and by control groups.

Table 1. Hospital use by case and control groups over the investigation periods.

Outcome	Statistic	Control MPS			Intervention MPS		
		Before	During	After	Before	During	After
Denominator	No. of residents	250	213	106	195	172	69
Acute hospitalisation	No.	103	135	85	110	90	26
	Average	0.41	0.63	0.80	0.56	0.52	0.37
Length of stay of acute hospitalisation	Total days	411	689	499	550	539	159
	Average	1.64	3.23	4.70	2.82	3.13	2.30
Potentially preventable hospitalisation	No.	7	12	3	15	14	3
	Average	0.03	0.06	0.03	0.08	0.08	0.04
ED presentation	No.	115	122	90	99	73	21
	Average	0.46	0.57	0.84	0.51	0.42	0.29
High urgency ED presentation	No.	68	74	56	62	45	12
	Average	0.27	0.35	0.54	0.32	0.26	0.17

Resident quality of life and wellbeing

The Older Persons Quality of Life (OPQoL) standardised tool was used to gauge resident and staff perceptions of resident quality of life. This tool focuses on relationships, overall quality of life rating, independence, physical wellbeing and overall mood.

This is consistent with studies that have shown the connections between an older person's quality of life, social connections, participation and environment.[6]

Personal factors, such as health, inner beliefs and behavioural abilities, have been found to be essential for quality of life as are participation in activities associated with good health and being occupied. Levasseur et al found that the critical role of adaptation to disabilities and aging for better quality of life.[6] A sense of control over one's own life also has beneficial effects. The MPS environments and changes made to implement the principles have addressed these issues and had a positive effect on resident quality of life as identified through the results of the OPQoL.

Resident's quality of life: residents and staff perspectives overall

Residents' scores for quality of life and sense of control and independence improved from 73% and 69% to 82% and 73% respectively. Staff-perceived resident's quality of life and independence also improved from 72% and 64% to 79% and 72%.

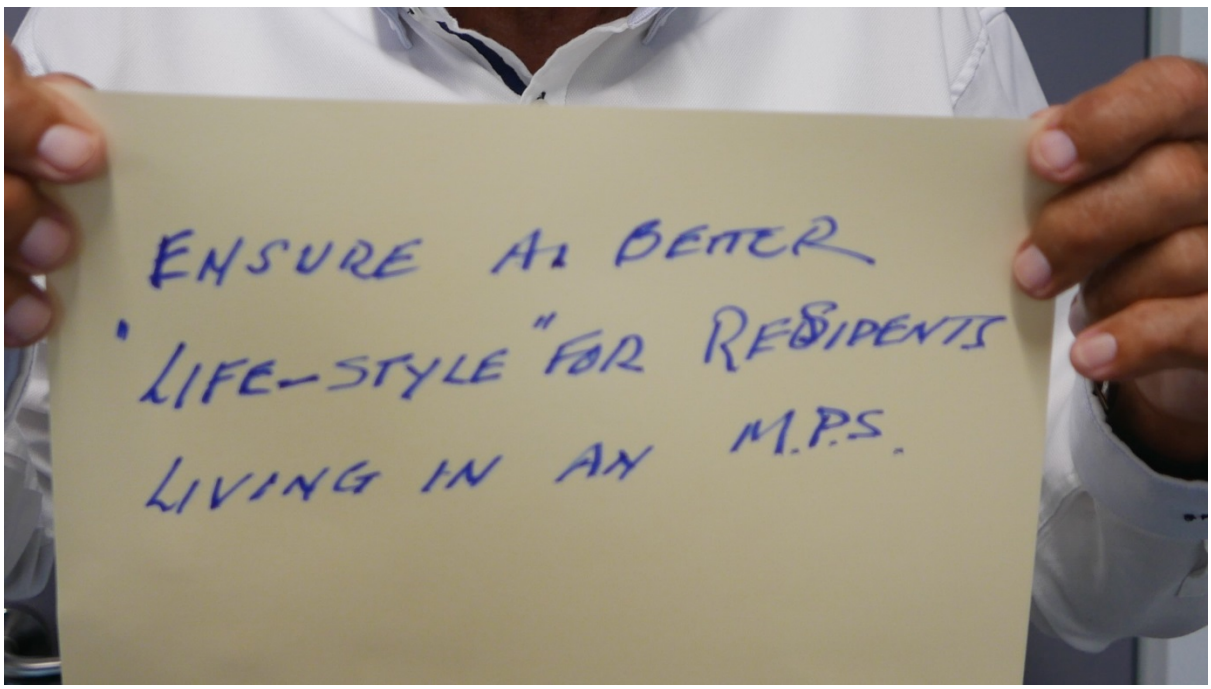
Residents' scores improved in six out of eight quality of life domains. Domains scores ranged between 60% (independence and control) and 79% (leisure and activities) before implementation of the key principles. Life overall and social relationship domains remained unchanged. Scores of domains with improvements ranged between 64% and 85% after the implementation; independence and control over life with the smallest change of 4%, and physical and emotional wellbeing with the largest change of 7%.

Residents' physical and mental wellbeing: residents and staff perspectives
Residents' scores for physical and emotional (overall mood) wellbeing improved from 69% and 70%, respectively, to 73%. Staff-perceived resident's physical and emotional (overall mood) wellbeing also improved from 74% and 68% to 78% and 75%.

Other indicators

Delivery of resident-centred aged care: staff perspective
Staff's ability in delivery of quality care improved from 82% to 86% and they feel more supported in their job (74% to 80%) after the implementation of the key principles. Staff's understanding in delivery of high quality care increased from 83% to 89% after implementation. Their opinion on the necessity of individually tailored care for residents improved from 83% to 88% and the extent they thought MPS provided such care improved from 68% to 72% after the implementation of the key principles.

Care aligned with key principles: staff perspective
Staff's scores for the targeted key principles in MPS services improved after implementation of the key principles. Improvements included availability of activities (51% to 55%), responding to residents' needs (78% to 83%), homelike physical environment (75% to 79%), residents' personal space (77% to 82%), and positive dining experiences (69% to 73%).



Experience of providing aged care: staff perspective
Staff overall job satisfaction improved from 76% to 80%. This was articulated further through the site interviews where staff said that the achievements that they could see through the implementation of the principles provided a positive factor in their work and enhanced motivation to continue these changes.

Families welcome and involved: residents and their carer/family perspectives
Residents' carer/family scores for feeling welcome and being involved in decision making for loved ones at MPS improved from 94% and 89% to 97% and 95% after implementation of the key principles. Residents' scores for both domains remained unchanged at 95% and 85% approximately.

Resident, staff, carer and family relationships: residents and staff perspectives
Residents' self-reported scores for their relationship with nursing and other staff improved from 85% and 84% to 95% and 90% respectively after implementation of the key principles. Staff scores for relationships between residents with nursing and other staff also improved from 76% and 78% to 86% and 81% respectively. Staff scores for resident's, carer and family relationships with nursing and other staff improved from 79% and 77%, respectively, to 81%.

Enablers and challenges to implementation

Several themes that assisted implementation of the principles were identified through MPS interviews using the Consolidated Framework for Implementation Research (CFIR). The CFIR has been established through a meta-analysis of the major domains that have been found to facilitate change in healthcare settings. It has foundations in the theory of innovation diffusion. See table three for the five key domains of change.

Through the interviews with four MPS, it was found that the majority of the impact on the implementation relied heavily on the inner setting domain characteristics. This indicated that the most salient factors assisting the implementation were related to the MPS facilities themselves. This included the services absorptive capacity for change, and the shared receptivity of involved individuals in the intervention, and the extent to which the use of that intervention was rewarded, supported, and expected within the service. These services have leaders who value team members' assistance and input, and team members report feeling valued and psychologically safe to try new methods. In addition to this, the services were characterised by structural characteristics (social architecture of the organisation) and cultural characteristics (norms and values) that valued the change and provided support to implement this. One of the most meaningful ways of doing this was through good quality networks and communications of both a formal and informal nature comprising collaborations across teams and establishing the statewide community of practice at the onset of implementation of the key principles. It was noted that formalised and regular lessons learned and benchmarking forums will assist to spread successful activities across NSW.

Table 2. Consolidated Framework for Implementation Research domains and implementation factor themes

CFIR domain	Interview themes that emerged in each domain
Intervention characteristics	Relative advantage
Implementation process	Key stakeholders

CFIR domain	Interview themes that emerged in each domain
Individual characteristics	Nothing identified in this domain
Inner setting	Structural, networks, culture, compatibility, learning climate, leadership engagement and available resources
Outer setting	Resident needs and resources, cosmopolitanism

Through interviews it was reported that the learning climate was the most important factor contributing to the success of the implementation of the MPS living well key principles. This included support for individuals to innovate and the extent to which the use of innovations were rewarded, supported and expected within the MPS sites. The learning climate was enhanced by the organisations culture and commitment to change through their leadership engagement and their networks and communication strategies including:

- an ability and willingness to span discipline boundaries to communicate and gain consensus in ways of delivering and organising MPS care
- executive level engagement to support actions that may be beyond the remit of clinicians and non-clinical staff or to lead model changes across disciplines.

> 'Now it's okay to do something different and we're not going to get into trouble for trying a new idea.'

> 'Having that scrum board up for a while, and getting people around the scrum board was really pivotal in just getting things happening and staff together to try a few things.'

> 'We actually took a long time to get organised. So I guess there was concern that we were really committed and I guess we struggled to wonder how we would fit all this in.'

Access to performance data was a key enabler of implementing the principles as it highlighted to teams where they needed to focus improvement efforts. It was identified as a driver of improvement even when it provided feedback on poor performance. It provided a means to engage and change practice and to monitor the effectiveness of changes implemented.

Overall, effective review and use of data must be underpinned by clinical leadership, executive engagement and adequate resources. Where data was not collected and accessible, MPS staff reported often being unaware of local performance and therefore unable to enact change locally. MPS sites that were considered to have implemented the principles to a lower extent than other MPS identified data access as a barrier.

One of the other barriers identified in implementing the principles was inadequate human resources.

MPS facilities with low implementation rates appeared to have less adaptable services that were less responsive to evidence or identified problems. In these MPS, the availability and allocation of human resources were seen as a barrier to implementation.

> 'There is very minimal dissemination of information and data … and even when there is understanding it is difficult, not to mention what you do to fix it.'

> 'There's a lot of other competing demands which really meant that we didn't put a real good focus right at the start.'

Culture and approach to improvement may underpin this organisational responsiveness. In MPS where adherence to the principles is minimal, there is the perception that services are meeting the principles unless there is overt evidence to suggest otherwise. The absence of data meant many MPS staff teams were unaware of their performance against the principles. In low fidelity hospitals even when staff were aware of problems with how care was delivered, steps had often not been taken to address these problems and in some cases, staff did not feel capable of fixing these issues.

Recommendations

18. Establish annual statewide or LHD MPS benchmarking and information sharing forums to share ideas and lessons using strengths based approaches.
19. Establish a buddy system for MPS across LHDs to be coupled with a high achieving MPS for support and assistance in making sustainable change.
20. Establish a robust minimum dataset for collection, reporting and planning to assist ongoing service and care improvement.
21. Raise the profile of aged care and MPS statewide through district leadership and statewide links through the MPS community of practice plan-do-study-act (PDSA) portal, forums and ongoing profiles in relevant media.
22. MPS develop improvement plans and implementation strategies to address longer term goals (principles 1, 3 and 5).

Discussion

Key principles

There was improvement in several of the principles with the main improvements revolving around the inner domains of:

- principle 2: informed and involved
- principle 6: positive dining experience
- principle 7: access to multidisciplinary services.

These inner settings were achieved through changing environments that supported a culture of learning and doing things differently. This has been supported by management and through individual empowerment and capacity to discuss new ideas and try innovative ways of improving care and systems. This encourages staff to be involved and actively participate in the implementation of the key principles.

With a learning culture and supportive management structure, the inner settings were in reach of the MPS to make quick changes that established and enhanced motivation and to improve experiences of residents, particularly around dining.

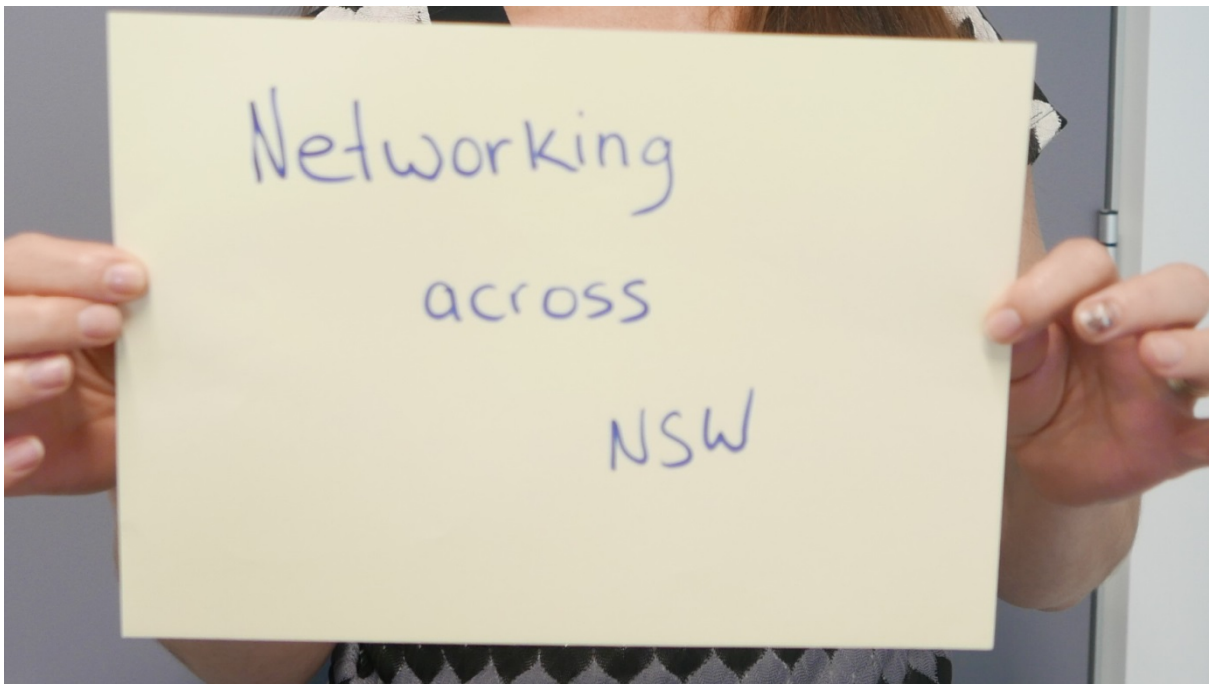
The least improvements were reported in principles:

- principle 1: respect for rights as an individual
- principle 3: comprehensive assessment and care planning and
- principle 5: recreational and leisure activities.

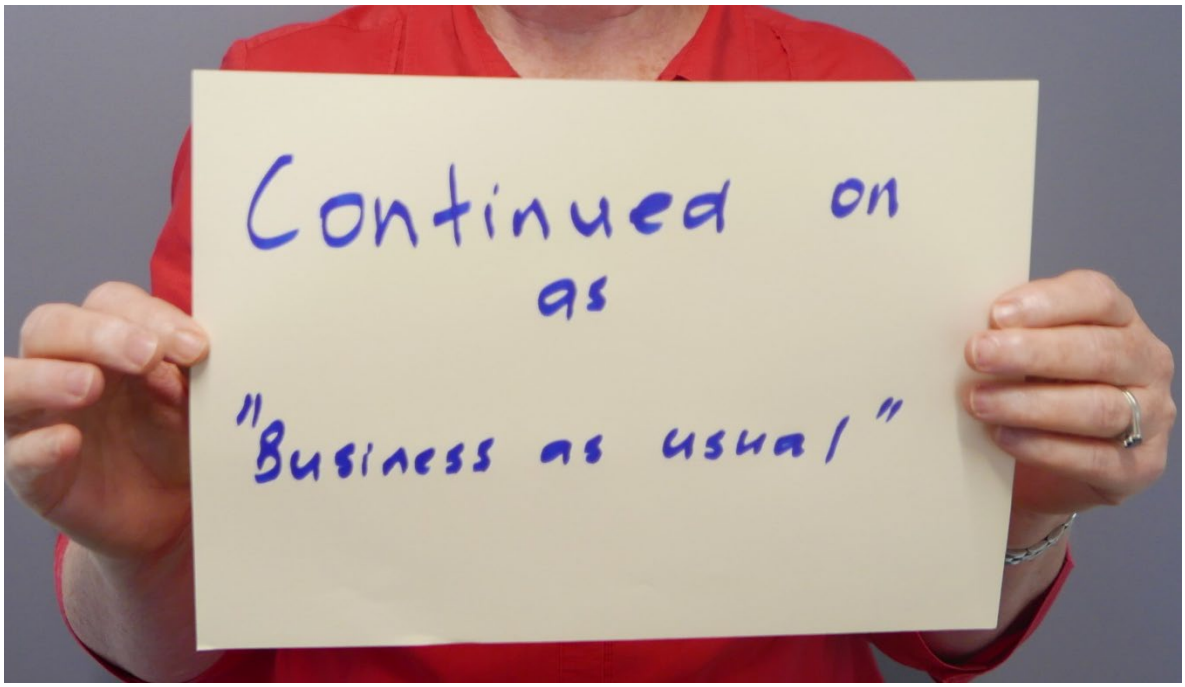
These principles are located in the CFIR outer and process settings, and were considered longer term goals requiring more attention to change. It is recommended that MPS develop improvement plans and implementation strategies in these areas to address.

Unintended benefits

It was reported through the interviews that there were several unintended benefits for MPS, including the development of partnerships across the state through the implementation of the principles, development of multiple resources and changes to accreditation processes. Specifically, HealthShare NSW made numerous changes to support staff in improving the dining experience. They created fact sheets to support the introduction of chicken yards and using the eggs, creating vegetable gardens and safe use of the produce, composting and safe disposal of vegetable waste and infection control for communal items, for example getting rid of single serve portions and replacing them with salt and pepper shakers, sugar bowls, sauces, jams and spreads.



NSQHS version two was released December 2017, recognising the Living Well in MPS work nationally, through inclusion in the National Safety and Quality Health Service Standards Guide for Multipurpose Services and Small Hospitals[7] as an implementation strategy to assist staff in meeting Standard 5, Comprehensive Care Planning. This citation reinforces the importance of this work in NSW and highlights the value of the work nationally.



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Appendices

Resident characteristics and that of respondents

Across the 25 MPS sites that were included in this MPS evaluation, the average age of residents across MPS facilities was 80-89 years (45%), with over 70% of the cohort being above the age of 80. There were 35% male and 65% females in the cohort.

Table 3 shows the characteristics of respondents to staff, resident and carer questionnaires across MPS sites.

Table 3. Characteristics of respondents

Characteristics	Resident checklist				Carer and family checklist				Resident survey			
	Before	(%)	After	(%)	Before	(%)	After	(%)	Before	(%)	After	(%)
Gender												
Female	170	(67.2%)	174	(65.2%)	124	(64.2%)	129	(67.5%)	187	(64.0%)	166	(63.4%)
Male	83	(32.8%)	93	(34.8%)	69	(35.8%)	62	(32.5%)	105	(36.0%)	96	(36.6%)
Age of resident												
50-59	7	(2.8%)	9	(3.4%)	7	(3.5%)	5	(2.5%)	6	(2.1%)	8	(3.1%)
60-69	9	(3.6%)	10	(3.7%)	10	(5.0%)	12	(6.1%)	13	(4.5%)	8	(3.1%)
70-79	35	(13.9%)	56	(20.9%)	29	(14.5%)	32	(16.2%)	45	(15.7%)	54	(20.8%)
80-89	128	(50.8%)	121	(45.1%)	99	(49.5%)	84	(42.6%)	157	(54.7%)	113	(43.5%)
90 and over	73	(29.0%)	72	(26.9%)	55	(27.5%)	64	(32.5%)	66	(23.0%)	77	(29.6%)
Resident's length of stay												
0-1 year	95	(38.2%)	95	(36.7%)	76	(39.6%)	69	(38.3%)	94	(32.2%)	89	(32.7%)
1-2 years	73	(29.3%)	57	(22.0%)	39	(20.3%)	41	(22.8%)	75	(25.7%)	52	(19.1%)
2-5 years	65	(26.1%)	85	(32.8%)	59	(30.7%)	54	(30.0%)	83	(28.4%)	77	(28.3%)
5 years and over	16	(6.4%)	22	(8.5%)	18	(9.4%)	16	(8.9%)	40	(13.7%)	54	(19.9%)
Carer and family's visit frequency												
Daily					84	(43.3%)	87	(45.3%)				
Weekly					72	(37.1%)	73	(38.0%)				
Fortnightly or less					38	(19.6%)	32	(16.7%)				

In addition to residents and their carers and families completing questionnaires, a number of staff across MPS sites also completed questionnaires before and after the implementation of the MPS Living Well key principles. The table 4 shows the number of staff who by occupational category who completed the questionnaires.

Table 4. Staff respondents

Position	Count	% of total
Nursing or care staff	303	61
Food service	48	10
Administrative	37	7
Housekeeping	33	7
Management	26	5
Activities officer or leisure or health assistant	13	3
Maintenance	5	1
Security	5	1
Other – Health and Security Assistant	4	Less than 1
Other - food service housekeeping	3	
Other – Aboriginal Health Worker	2	
Other – dental	2	
Other - multiple food service housekeeping	2	
Other	1	
Other - administrative management	1	
Other - allied health	1	
Other - cook	1	
Other - doctor	1	
Other - food service housekeeping maintenance activities officer	1	
Other - multiple food service housekeeping personal laundry	1	
Other - multiple activities officer nursing staff	1	
Other - multiple administrative food service housekeeping	1	
Other - multiple food service housekeeping management	1	
Other - multiple food service management	1	
Other - patient transport	1	
Total	495	

Methods

The evaluation used a mixed methods approach including qualitative and quantitative data collection and analysis.

The data collection process comprised:

- Self-assessment checklist for each MPS
- Resident and carer checklist
- Staff survey
- Resident survey
- Carer and family survey
- MPS audit (processes)
- Semi-structured hospital stakeholder interviews
- Administrative hospital data analysis

The evaluation was guided by a program logic and subsequent key evaluation questions.

Data used for the evaluation

Data collection and analysis included the following.

- **Self-assessment checklists** The organisational checklist was completed as part of the expression of interest process and aided in the selection of MPS most likely to benefit from participation in the collaborative. Participating MPS revisited the checklist toward the end of the three action periods, to identify any progress made and identify any focus areas for their next action period. Ratings were made on a five point scale (from not or rarely achieved through to always achieved) for the extent to which they achieved each principle theme based on their practice at that time. A total score was derived and an overall percentage rating for each principle. This was used to prioritise the principles where the MPS would like to focus on improving their current practices, and nominate some potential strategies they would like to trial.
- A complementary **resident and carer checklist** was used to gather independent feedback to score how fully the standards have been implemented by hospitals (n= 25 MPS facilities).
- **Baseline and follow-up questionnaires** these questionnaires were gathered from all MPS residents with adequate cognitive ability and all MPS staff (including care, food service, cleaning, maintenance workers and managers). They were collected during late January and early February 2017 (including the first round of headline indicators) and late November of 2017 (after the nine-month implementation phase). The baseline data was presented back to participating MPS during Learning Set 1 whereas the follow-up data is incorporated into this final evaluation report.

Table 5 shows the number of respondents to each of the methods noted above.

Table 5. Number of respondents to checklists and surveys across facilities

MPS name	No. beds	No. staff	Staff ratio	Size category	Ratio category	Resident checklist				Carer and family checklist				Organisation checklist		Resident survey				Staff survey				Resident audit				Staff audit			
						Before	(%)	After	(%)	Before	(%)	After	(%)	Before	After	Before	(%)	After	(%)	Before	(%)	After	(%)	Before	(%)	After	(%)	Before	(%)	After	(%)
Balranald MPS	15	55	3.67	Small	High	3	(1.2%)	7	(2.6%)	3	(1.5%)	5	(2.5%)	1	1	2	(0.7%)	9	(3.3%)	10	(2.3%)	25	(4.7%)	19	(5.7%)	14	(4.0%)	16	(2.9%)	26	(5.2%)
Batlow Adelong MPS	19	36	1.89	Large	Low	16	(6.2%)	12	(4.4%)	17	(8.5%)	11	(5.4%)	1	1	18	(6.1%)	10	(3.7%)	23	(5.3%)	20	(3.8%)	17	(5.1%)	16	(4.6%)	24	(4.4%)	12	(2.4%)
Blayney MPS	20	70	3.50	Large	High	15	(5.8%)	12	(4.4%)	16	(8.0%)	11	(5.4%)	1	1	17	(5.8%)	13	(4.8%)	45	(10.4%)	36	(6.8%)	19	(5.7%)	15	(4.3%)	29	(5.3%)	35	(7.0%)
Boggabri MPS	16	35	2.19	Small	Low	14	(5.4%)	15	(5.5%)	15	(7.5%)	13	(6.4%)	1	1	28	(9.6%)	14	(5.1%)	20	(4.6%)	28	(5.3%)	16	(4.8%)	14	(4.0%)	41	(7.4%)	33	(6.6%)
Bombala MPS	10	25	2.50	Small	High	5	(1.9%)	5	(1.8%)	6	(3.0%)	8	(3.9%)	1	1	6	(2.0%)	5	(1.8%)	12	(2.8%)	10	(1.9%)	7	(2.1%)	10	(2.9%)	15	(2.7%)	7	(1.4%)
Boorowa MPS	12	25	2.08	Small	Low	9	(3.5%)	6	(2.2%)	8	(4.0%)	16	(7.8%)	1	1	4	(1.4%)	10	(3.7%)	38	(8.8%)	24	(4.5%)	13	(3.9%)	12	(3.4%)	44	(8.0%)	33	(6.6%)
Braidwood MPS	25	50	2.00	Large	Low	16	(6.2%)	16	(5.9%)	5	(2.5%)	9	(4.4%)	1	1	13	(4.4%)	16	(5.9%)	19	(4.4%)	23	(4.3%)	21	(6.3%)	18	(5.2%)	11	(2.0%)	21	(4.2%)
Coolamon MPS	12	34	2.83	Small	High	11	(4.3%)	3	(1.1%)	9	(4.5%)	2	(1.0%)	1	1	0	(0.0%)	8	(2.9%)	0	(0.0%)	17	(3.2%)	11	(3.3%)	11	(3.2%)	33	(6.0%)	28	(5.6%)
Coonamble MPS	18	41	2.28	Large	High	11	(4.3%)	11	(4.0%)	17	(8.5%)	9	(4.4%)	1	1	5	(1.7%)	10	(3.7%)	34	(7.9%)	31	(5.8%)	18	(5.4%)	16	(4.6%)	52	(9.4%)	32	(6.4%)
Delegate MPS	10	27	2.70	Small	High	6	(2.3%)	5	(1.8%)	6	(3.0%)	3	(1.5%)	1	1	3	(1.0%)	6	(2.2%)	5	(1.2%)	18	(3.4%)	10	(3.0%)	7	(2.0%)	18	(3.3%)	17	(3.4%)
Dorrigo MPS	21	42	2.00	Large	Low	11	(4.3%)	12	(4.4%)	2	(1.0%)	6	(2.9%)	1	1	20	(6.8%)	3	(1.1%)	12	(2.8%)	21	(3.9%)	21	(6.3%)	11	(3.2%)	30	(5.4%)	16	(3.2%)
Grenfell MPS	34	70	2.06	Large	Low	20	(7.8%)	24	(8.8%)	1	(0.5%)	3	(1.5%)	1	1	45	(15.4%)	21	(7.7%)	26	(6.0%)	12	(2.3%)	32	(9.6%)	33	(9.5%)	22	(4.0%)	16	(3.2%)
Gulgong MPS	6	22	3.67	Small	High	3	(1.2%)	7	(2.6%)	5	(2.5%)	6	(2.9%)	1	1	6	(2.0%)	7	(2.6%)	7	(1.6%)	15	(2.8%)	0	(0.0%)	6	(1.7%)	17	(3.1%)	20	(4.0%)
Gundagai MPS	18	30	1.67	Large	Low	13	(5.1%)	20	(7.4%)	12	(6.0%)	18	(8.8%)	1	1	16	(5.5%)	19	(7.0%)	11	(2.6%)	38	(7.1%)	17	(5.1%)	18	(5.2%)	19	(3.4%)	23	(4.6%)
Guyra MPS	17	50	2.94	Large	High	12	(4.7%)	13	(4.8%)	8	(4.0%)	4	(2.0%)	1	1	11	(3.8%)	10	(3.7%)	10	(2.3%)	11	(2.1%)	15	(4.5%)	1	(0.3%)	11	(2.0%)	8	(1.6%)
Henty MPS	12	25	2.08	Small	Low	8	(3.1%)	8	(2.9%)	9	(4.5%)	4	(2.0%)	1	1	8	(2.7%)	5	(1.8%)	12	(2.8%)	12	(2.3%)	9	(2.7%)	8	(2.3%)	15	(2.7%)	7	(1.4%)
Jerilderie MPS	11	20	1.82	Small	Low	7	(2.7%)	3	(1.1%)	9	(4.5%)	8	(3.9%)	1	1	18	(6.1%)	3	(1.1%)	22	(5.1%)	19	(3.6%)	9	(2.7%)	11	(3.2%)	20	(3.6%)	19	(3.8%)
Lockhart MPS	16	35	2.19	Large	Low	10	(3.9%)	8	(2.9%)	10	(5.0%)	7	(3.4%)	1	1	9	(3.1%)	5	(1.8%)	23	(5.3%)	23	(4.3%)	0	(0.0%)	4	(1.1%)	0	(0.0%)	22	(4.4%)
Manilla MPS	40	91	2.28	Large	High	20	(7.8%)	24	(8.8%)	9	(4.5%)	9	(4.4%)	1	1	25	(8.5%)	22	(8.1%)	11	(2.6%)	36	(6.8%)	19	(5.7%)	38	(10.9%)	22	(4.0%)	37	(7.4%)
Molong MPS	12	25	2.08	Small	Low	6	(2.3%)	14	(5.1%)	2	(1.0%)	21	(10.3%)	1	1	0	(0.0%)	16	(5.9%)	2	(0.5%)	27	(5.1%)	11	(3.3%)	12	(3.4%)	21	(3.8%)	17	(3.4%)
Nyngan MPS	36	60	1.67	Large	Low	12	(4.7%)	9	(3.3%)	10	(5.0%)	8	(3.9%)	1	1	11	(3.8%)	13	(4.8%)	15	(3.5%)	31	(5.8%)	13	(3.9%)	31	(8.9%)	18	(3.3%)	15	(3.0%)
Peak Hill MPS	10	30	3.00	Small	High	5	(1.9%)	6	(2.2%)	4	(2.0%)	3	(1.5%)	1	1	6	(2.0%)	4	(1.5%)	23	(5.3%)	12	(2.3%)	9	(2.7%)	9	(2.6%)	17	(3.1%)	8	(1.6%)
Tingha MPS	8	31	3.88	Small	High	5	(1.9%)	7	(2.6%)	1	(0.5%)	7	(3.4%)	1	1	9	(3.1%)	11	(4.0%)	21	(4.9%)	20	(3.8%)	7	(2.1%)	8	(2.3%)	13	(2.4%)	15	(3.0%)
Tocumwal MPS	6	32	5.33	Small	High	5	(1.9%)	8	(2.9%)	5	(2.5%)	1	(0.5%)	1	1	0	(0.0%)	18	(6.6%)	12	(2.8%)	7	(1.3%)	5	(1.5%)	9	(2.6%)	23	(4.2%)	19	(3.8%)
Urbenville MPS	18	33	1.83	Large	Low	14	(5.4%)	17	(6.3%)	11	(5.5%)	12	(5.9%)	1	1	13	(4.4%)	15	(5.5%)	18	(4.2%)	17	(3.2%)	17	(5.1%)	17	(4.9%)	20	(3.6%)	16	(3.2%)
Total	**422**	**994**				**257**		**272**		**200**		**204**		**25**	**25**	**293**		**273**		**431**		**533**		**335**		**349**		**551**		**502**	

Semi-structured hospital stakeholder interviews
The purpose of the interviews was to understand the factors that helped and hindered the MPS sites in implementing the principles. The interview guide was based on helping and hindering factors to implementation identified in the literature. The CFIR provided the basis of these themes.[8-9] The themes identified in the clinical team interviews against the CFIR domains are shown in Table 2. CFIR domains and implementation factor themes. There were semi-structured interviews with MPS clinical, non-clinical and administrative teams on helping and hindering factors (n=4 MPS sites).
The interviews occurred at two high and two low implementation fidelity MPS sites. The implementation manager and rural health manager determined the sites. MPS characteristics were considered so the interviews captured a range of MPS contexts. A consistent evaluator and implementation manager conducted the interviews between October and December 2017. Each interview took between 60 and 90 minutes.

Interviews were recorded and transcribed. Nvivo 11 software was used to analyse the interview data. A thematic analysis approach was taken and a coding system was developed for consistency. Coding was undertaken by one evaluator for consistency.

Administrative hospital data analysis
The committee defined the MPS living well cohort and the data variables for analysis. A data analyst extracted data to look at patient and system outcome trends for the MPS resident cohort both before and after release of the key principles and at both a state and hospital level.

Patient cohort administrative data variables
Patient and hospital cohort data were be sourced from the NSW Ministry of Health *Hospital Performance Data Set* (HoPeD) from SAPHaRI.

The data used included variables from the admitted patient data collection, links to the Registry of Births, Deaths and Marriages, and to the NSW emergency departments data collection.

Statistical analysis for checklists, questionnaires and audits
Impact of the program across key principles and measured indicators were assessed by the multilevel modelling framework. Linear models with scores as continuous outcome variables and a flag predictor (period) to estimate score changes were applied.

Potential contributing factors including characteristics of residents, carers and family and staff as well as sizes of facility and staff per bed ratios for MPS were entered into models for adjustment. The characteristics were defined as categorical variables and included sex, resident's age: 50s, 60s, 70s, 80s, and 90s and over; resident's length of stay: 0-1 year, 1-2 years, 2-5 years, and 5 years and over; carer and family's visit frequency: daily, weekly, and fortnightly or less; staff role: management and administrative, nursing and care, and other; staff length of services: 0-1 year, 1-2 years, 2-5 years, 5-10 years, and 10 years and over; MPS size: large versus small (based on median number of beds), MPS staff per bed ratio: high versus low (based on median ratio).

Pair-wise interactions between period and all contributing factors were examined to identify groups with higher or lower changes in score. To capture clustering effects and quantify inter-MPS variation random intercepts and slopes (for period) were independently used and estimated. The former provided overall inter-MPS variation in scores, and the latter quantified inter-MPS variation

in change in score after implementation of the key principles. All results were presented in 0-100 scale with lower scores indicating poorer outcome. Change and deviation in scores were reported in absolute scale.

Significance level was set at 0.05 and 95% confidence intervals were presented where appropriate.

Data source and cohort definition

Record-linked hospital administrative data including admitted patient and emergency department data collections (APDC and EDDC) were used to examine the impact of the program. The investigation period was defined between 1 July 2016 and 30 June 2018, with three balanced eight-month periods as before, during and after the program, equivalent to the actual implementation phases. Using information from type of admission and admitting unit in APDC, individuals who had residential aged care admission and stayed over 120 days (half of the length of investigation periods) in any MPS across NSW within the investigation period, were identified and then assigned to the case or control cohorts based on whether their admitting MPS was a participating facility in the program or not. Individuals with multiple stays in MPS were assigned to the MPS where they stayed longer. No individual with stays in both participating and non-participating facilities was found.

For identified individuals, median length of stay at MPS during the investigation period was 337 days (interquartile: 203-468 days) and nine in ten of these residents had died within the investigation period.

Table 6. Cohorts and their survival status across the program periods.

Cohort	No. (%) of facilities	No. (%) individuals	No. (%) individuals who were alive at the end of the program periods		
			Before	During	After
Case	25 (39%)	231 (43%)	189 (82%)	87 (38%)	16 (7%)
Control	39 (61%)	300 (57%)	244 (81%)	129 (43%)	36 (12%)

Hospital use outcomes

Number and length of stays of acute admissions (excluding renal dialysis), number of potentially preventable hospitalisations, number of ED presentations (excluding, planned and return visits) and those with high urgency (triage categories 1-3) were considered as hospital use outcomes.

Residents following entry to the facility were only included and allocation of the use to the periods were based on the start date of the service. Denominators for each period were modified based on facility entry date as well as death date if occurred. Comparisons between cohorts and over time were examined using negative binomial and linear mixed models (random intercept at MPS level) where appropriate; and sex and age (at the start of implementation period) were entered as covariates for adjustment.

Limitations

The Living Well in MPS collaborative was a relatively short-term project being conducted among a sample comprising about one-third of the small population of approximately 400 MPS residents

across NSW. These characteristics limit the power of this evaluation to definitively prove the effectiveness of the Living Well in MPS Toolkit, particularly in relation to the end of program outcomes and broader goals included in the program logic. However, collaboratives are usually seen as more of a catalyst toward an ongoing self-reflection and improvement cycle, whereby further change would be expected beyond the life of the current project. Therefore, while trends were observed which showed some statistical significance, indicating positive improvements in the care and experience of MPS residents and staff, further evaluation is necessary.

Another limitation identified in this evaluation was that there was low representation of residents in interviews, who were selected by staff at MPS sites, with only one of the four sites having residents represented. However, it was reported by staff during interviews that resident capacity over time diminished due to factors such as dementia, thereby making it difficult to have some residents participate for the entire duration of the project, and limiting facilities' ability to engage residents in some of these processes.

A balanced but short time period for before and after the implementation of the key principles was applied. Replication of this investigation with longer time periods will better identify sustainable patterns. Individuals who were identified as the residents of MPS across NSW are mostly those who died within the investigation period. Replication of current analysis will capture current residents and their service use following the intervention. Findings were based on limited adjustments including demographics and person-period contribution (as denominator). Inclusion of individual's health status pre-implementation and use of finer scales for denominator (e.g. person-month/days) coupled with larger sample sizes will be more robust.

Mapping key evaluation questions to data sources

Key evaluation questions		Collaborative data sources: Site management records (ongoing)	Collaborative data sources: Self assessment checklists (quarterly*) – MPS	Collaborative data sources: Self assessment checklists (quarterly*) – Resident	Collaborative data sources: Self assessment checklists (quarterly*) – Family	Collaborative data sources: Headline indicators (monthly) – Resident	Collaborative data sources: Headline indicators (monthly) – Staff	Comprehensive baseline and follow up: Surveys – Resident	Comprehensive baseline and follow up: Surveys – Staff	Comprehensive baseline and follow up: MPS Audit	Comprehensive baseline and follow up: Stake-holder Interview	Comprehensive baseline and follow up: NSW health data
Influencing activities	• How well do MPS sites engage with the collaborative approach and activities?	X							X		X	
Immediate outcomes	• Are MPS staff better motivated, skilled, resourced and supported to deliver resident-centred aged care?		X (Expertise in aged care principle)	X	X		X		X		X	
Intermediate outcomes	• Are MPS delivering residential aged care that is better aligned with the Living Well in MPS principles?		X (Other 7 principles)	X	X				X	X		
End of program outcomes	• Has MPS staff's experience of providing aged care improved?						X		X			
	• Do MPS residents' families feel more welcome and included?			X	X							
	• Have MPS resident-staff-family relationships improved?			X	X	X	X	X				
	• Has MPS residents' quality of life improved?					X	X	X				X
Broader goals	• Has MPS residents' physical and mental wellbeing improved?					X	X					X
	• Has MPS staff retention and team functioning improved?								X	X	X	

Self assessment checklists

Organisational Checklist

MPS name:

Respect for rights as an individual

The resident is respected as an individual with an emphasis on rights, quality of life and wellbeing, as defined by the individual, their carer and family. This includes privacy, control over life, dignity and lifestyle interests.

Please rate how well you feel your MPS currently achieves each of the following	Not or rarely achieved	Sometimes (< ½ time)	Often (~ ½ time)	Usually (> ½ time)	Always achieved – for ALL	Rationale (please comment about how you decided this rating)
a) Getting to know each resident as a person including their history, likes, dislikes, capabilities and limitations (e.g. via a social profile) – ideally as they arrive but at least within their first month	0	1	2	3	4	
b) Regularly reviewing each resident's likes, dislikes, capabilities and limitations (e.g. via social profile or staff-resident interactions) – at least 6-monthly	0	1	2	3	4	
c) Ensuring the care provided is responsive to residents' likes, dislikes, capabilities and limitations (e.g. regular resident meetings)	0	1	2	3	4	
d) Respecting residents' individual cultural, spiritual, emotional and social needs (e.g. observing special days from various religions, being LGBTI-friendly)	0	1	2	3	4	
e) Developing one to one relationships between residents and staff members (e.g. through consistent rostering)	0	1	2	3	4	

Overall rating calculation: *Add above ratings together* = *Divide by 20 (possible points), multiply by 100 and round up or down to nearest whole number* = %

Informed and involved

The resident and family or carer receive timely and appropriate information at entry to care and at regular intervals to maintain choice and control over all aspects of the resident's life.

Please rate how well you feel that your MPS currently achieves each of the following:	Not or rarely achieved	Sometimes (< ½ time)	Often (~ ½ time)	Usually (> ½ time)	Always achieved – for ALL	Rationale (please comment about how you decided this rating)
a) Providing ALL **potential** residents and their families with relevant information about the MPS facility and services (e.g. resident handbooks) – ideally when they are first considering your facility	0	1	2	3	4	
b) Providing ALL residents and their families with detailed information about day-to-day life and the services available in the MPS (e.g. welcome packs) – ideally as they arrive but at least within their first week	0	1	2	3	4	
c) Facilitating residents and their families' involvement in decisions about their day-to-day life and activities (e.g. via regular case conferencing) – ideally quarterly but at least 6-monthly	0	1	2	3	4	
d) Regularly updating residents about changes to service availability options – at least quarterly	0	1	2	3	4	
e) Regularly updating residents' families about changes to service availability options – at least quarterly (e.g. regular newsletters)	0	1	2	3	4	

Overall rating calculation: *Add above ratings together* = *Divide by 20 (possible points), multiply by 100 and round up or down to nearest whole number* = %

Comprehensive assessment and care planning

The resident participates in comprehensive assessment and care planning, that is reviewed regularly or whenever there is a significant event.

Please rate how well you feel that your MPS currently achieves each of the following:	Not or rarely achieved	Sometimes (< ½ time)	Often (~ ½ time)	Usually (> ½ time)	Always achieved – for ALL	Rationale (please comment about how you decided this rating)
a) Assessing and documenting ALL residents' physical health status and care needs (e.g. via shared care planning) – ideally as they enter the facility but at least within their first weeks	0	1	2	3	4	
b) Assessing and documenting ALL residents' cognitive functioning, mental health status and care needs (e.g. via shared care planning) – ideally as they enter the facility but at least within their first weeks	0	1	2	3	4	
c) Assessing and documenting ALL residents' basic functioning and support needs, including their mobility, dexterity, continence, sleep, skin, etc. (e.g. via living care plans) – ideally as they enter the facility but at least within their first weeks	0	1	2	3	4	
d) Developing care plans for ALL residents, based on their assessed functioning, health status, care and support needs – ideally as they enter the facility but at least within their first weeks	0	1	2	3	4	
e) Identifying and documenting ALL residents' advanced care and end-of-life preferences – ideally before they enter the facility but at least within their first month	0	1	2	3	4	

Comprehensive assessment and care planning

The resident participates in comprehensive assessment and care planning, that is reviewed regularly or whenever there is a significant event.

Please rate how well you feel that your MPS currently achieves each of the following:	Not or rarely achieved	Sometimes (< ½ time)	Often (~ ½ time)	Usually (> ½ time)	Always achieved – for ALL	Rationale (please comment about how you decided this rating)
f) Regularly reviewing and updating ALL residents' care plans and end-of-life preferences (e.g. hosting general practitioner clinics) – ideally at least 6-monthly	0	1	2	3	4	
g) Facilitating residents and their families' involvement in decisions about their health care and end-of-life planning (e.g. via regular case conferencing) – ideally quarterly but at least 6-monthly	0	1	2	3	4	
Overall rating calculation:	*Add above ratings together*	=		*Divide by 28 (possible points), multiply by 100 and round up or down to nearest whole number*	=	%

Homelike environment

The resident lives in a homelike environment, which involves freedom and choice in routines (e.g. waking, dressing, engagement in chosen activities) and may also include environmental approaches such as kitchens and laundries accessible to residents, bistro or café style dining room or choice of menu.

Please rate how well you feel that your MPS currently achieves each of the following:	Not or rarely achieved	Sometimes (< ½ time)	Often (~ ½ time)	Usually (> ½ time)	Always achieved – for ALL	Rationale (please comment about how you decided this rating)
a) Providing a homely environment for residents (e.g. visually pleasing, warm, safe, welcoming, tranquil, light, airy, clean, etc.)	0	1	2	3	4	
b) Encouraging residents to personalise their space (e.g. with photos, own furniture, etc.)	0	1	2	3	4	
c) Ensuring acute care episodes are managed in residents' own space (e.g. ageing in place practices)	0	1	2	3	4	
d) Ensuring the MPS is welcoming and comfortable for residents' families and friends at all times	0	1	2	3	4	
e) Ensuring the MPS is safe and child-friendly	0	1	2	3	4	
f) Encouraging residents to determine their own daily routines re: eating, sleeping, waking, bathing, etc.	0	1	2	3	4	
g) Providing residents and families with unrestricted access to safe and secure outdoor spaces	0	1	2	3	4	
h) Avoiding medicalised language wherever possible	0	1	2	3	4	
Overall rating calculation:	*Add above ratings together*	=		*Divide by 32 (possible points), multiply by 100 and round up or down to nearest whole number*	=	%

Recreational and leisure activities

The resident is able to maintain personal and social relationships and access a range of recreational and leisure activities that are meaningful and maintain links to the community.

Please rate how well you feel that your MPS currently achieves each of the following:	Not or rarely achieved	Sometimes (< ½ time)	Often (~ ½ time)	Usually (> ½ time)	Always achieved – for ALL	Rationale (please comment about how you decided this rating)
a) Understanding each resident's interests and preferences for how to spend their leisure time (e.g. from their social profiles)	0	1	2	3	4	
b) Focussing on what each resident CAN do (e.g. as identified in their social profiles or living care plans)	0	1	2	3	4	
c) Offering a wide variety of recreational and leisure activities (eg: monthly calendar of activities and outings, visiting pets)	0	1	2	3	4	
d) Maintaining links with and visits to or from community-based groups (e.g. school groups, music, mothers groups)	0	1	2	3	4	
e) Actively encouraging and supporting ALL residents to engage in some form of recreational and leisure activities (e.g. by monitoring attendance and following up as needed)	0	1	2	3	4	
Overall rating calculation:	*Add above ratings together*	=	*Divide by 20 (possible points), multiply by 100 and round up or down to nearest whole number*	=	%	

Positive dining experience

The resident has an enjoyable dining experience. Meals are varied, nutritious and appetising, served in a calm environment with adequate access to drinking water.

Please rate how well you feel that your MPS currently achieves each of the following:	Not or rarely achieved	Sometimes (< ½ time)	Often (~ ½ time)	Usually (> ½ time)	Always achieved – for ALL	Rationale (please comment about how you decided this rating)
a) Ensuring ALL residents' nutritional needs are met (e.g. via LHD malnutrition screening tool and regular weigh-ins, with dietetic review and supplements, if needed) – ideally monthly	0	1	2	3	4	
b) Ensuring ALL residents' hydration needs are met (e.g. via LHD malnutrition screening tool) – ideally monthly	0	1	2	3	4	
c) Ensuring ALL residents' nutritional preferences are met (e.g. from living care plans)	0	1	2	3	4	
d) Offering a wide variety of meal options for residents (e.g. multiple menu options at each meal)	0	1	2	3	4	
e) Presenting meals that are appetising for residents (e.g. look good, smell good, taste good)	0	1	2	3	4	
f) Providing a home-like dining environment (e.g. table cloths, real crockery and cutlery, condiment trays on table – sauces, jams, salt and pepper shakers)	0	1	2	3	4	
g) Providing varied dining settings (e.g. indoor, outdoor, in-room, group tables)	0	1	2	3	4	
h) Including residents' families at special occasion meal times (e.g. birthdays, Mother's day, BBQs)	0	1	2	3	4	
Overall rating calculation:	*Add above ratings together*	=		*Divide by 32 (possible points), multiply by 100 and round up or down to nearest whole number*	=	%

Multidisciplinary services

The resident has access to person-centred care provided by multidisciplinary services according to their needs, choices and availability, to maximise functional ability and quality of life.

Please rate how well you feel that your MPS currently achieves each of the following:	Not or rarely achieved	Sometimes (< ½ time)	Often (~ ½ time)	Usually (> ½ time)	Always achieved – for ALL	Rationale (please comment about how you decided this rating)
a) Facilitating residents' access to **required general medical** services (e.g. hosting clinics, transporting residents or via telehealth – for general practitioners)	0	1	2	3	4	
b) Facilitating residents' access to **required specialist medical** services (e.g. hosting clinics, transporting residents or via telehealth – for geriatricians, nurse practitioners, etc.)	0	1	2	3	4	
c) Facilitating residents' access to **required psychological and mental health** services (e.g. hosting clinics, transporting residents or via telehealth – for social workers, psychogeriatrics, etc.)	0	1	2	3	4	
d) Facilitating residents' access to **required allied health** services, such as physiotherapy, occupational therapy, speech therapy, dietetics, etc. (e.g. hosting clinics, transporting residents or via telehealth)	0	1	2	3	4	
e) Facilitating residents' access to required dental services (e.g. hosting clinics, transporting residents)	0	1	2	3	4	

Multidisciplinary services

The resident has access to person-centred care provided by multidisciplinary services according to their needs, choices and availability, to maximise functional ability and quality of life.

Please rate how well you feel that your MPS currently achieves each of the following:	Not or rarely achieved	Sometimes (< ½ time)	Often (~ ½ time)	Usually (> ½ time)	Always achieved – for ALL	Rationale (please comment about how you decided this rating)
f) Facilitating residents' access to **other required therapies**, such as massage, aromatherapy, heat packs, music, movement (e.g. hosting clinics, transporting residents or via volunteers)	0	1	2	3	4	
g) Facilitating residents' access to **required palliative or end of life** services (e.g. hosting clinics or via telehealth – for palliative care specialists)	0	1	2	3	4	
h) Facilitating family and staff members' access to bereavement support (e.g. social worker)	0	1	2	3	4	
i) Facilitating multidisciplinary decision-making about residents' health care needs (e.g. multidisciplinary case conferencing) – ideally at least quarterly	0	1	2	3	4	
j) Facilitating residents and their families' involvement in decisions about their various support and treatment options (e.g. via regular case conferencing, hosting general practitioner clinics) – ideally quarterly but at least 6-monthly	0	1	2	3	4	
k) Communicating and sharing information with residents' various healthcare providers (e.g. via referral networks, shared care planning, electronic medical record)	0	1	2	3	4	

Multidisciplinary services

The resident has access to person-centred care provided by multidisciplinary services according to their needs, choices and availability, to maximise functional ability and quality of life.

Please rate how well you feel that your MPS currently achieves each of the following:	Not or rarely achieved	Sometimes (< ½ time)	Often (~ ½ time)	Usually (> ½ time)	Always achieved – for ALL	Rationale (please comment about how you decided this rating)
Overall rating calculation:	*Add above ratings together*	=		*Divide by 44 (possible points), multiply by 100 and round up or down to nearest whole number*	=	%

Expertise in aged care

MPS leadership enables staff to develop expertise in aged care and the delivery of resident-centred care.

Please rate how well you feel that your MPS currently achieves each of the following:	Not or rarely achieved	Sometimes (< ½ time)	Often (~ ½ time)	Usually (> ½ time)	Always achieved – for ALL	Rationale (please comment about how you decided this rating)
a) MPS leadership actively promotes and models resident-centred care (e.g. residents set their own routines)	0	1	2	3	4	
b) MPS leadership promotes and supports aged care as a discrete specialty area (e.g. on LHD websites and facility brochures)	0	1	2	3	4	
c) Offering regular aged care-specific professional development opportunities for staff (e.g. clinical nurse consultant education, grand rounds using telehealth)	0	1	2	3	4	
d) Rostering staff in ways that facilitate relationship building with residents	0	1	2	3	4	
e) Providing opportunities for staff to network and share resources with other MPS and RACFs	0	1	2	3	4	
f) Position descriptions emphasise aged care and resident-centred care skills and expertise (e.g. availability of Certificate III in Individual Support)	0	1	2	3	4	
Overall Rating Calculation:	*Add above ratings together*	=		*Divide by 24 (possible points), Multiply by 100 & Round up or down to nearest whole number*	=	%

Resident checklist questions

Here at <*MPS name*>, we are working to improve the way we care for our residents and would appreciate your honest feedback about how we are going in a number of areas.

Thinking about your life here during the last 3 months, how often have you felt the following … ? **Response options**: Never/rarely, Sometimes (< ½ time), Often (~ ½ time), Usually (> ½ time), Always, Not applicable	
1. **The staff really care about me.** They understand my likes and dislikes.	
2. **I know the staff very well.** I have good relationships with them.	
3. **The staff respect my culture and my beliefs**. I can be myself.	
4. **I know the MPS well, as my home.** I'm kept up-to-date about daily life & the services here.	
5. **I choose how to spend my day**. I choose when to eat, bathe, sleep, my activities and who I spend time with.	
6. **The staff understand my health and support needs.**	
7. **The staff understand my end of life** or **advanced care** preferences.	
8. **I feel at home here.** I can display favourite things, use my furniture and hang photos.	
9. **My family and friends are welcome here.** We have nice places to sit, talk, or eat together.	
10. **The staff focus on what I can do.** They involve me in activities here and in the community.	
11. **I enjoy living here.** There are activities I like doing and I feel part of the local community.	
12. **The food is good.** It looks good, smells good and tastes good.	
13. **I can choose what I eat and drink.** There is a choice of meals and between-meal snacks.	
14. **There are nice places to eat.** The dining areas feel homely and comfortable.	
15. **I choose where I eat and who I eat with.** I can dine alone or with others, indoors, outdoors or in my room.	
16. **I get the health care and other supports I need.** This includes physical, mental and dental health care and other therapies (eg: physiotherapy, massage, nutrition advice).	
17. **I take part in making decisions** about my health care.	
18. **My carer and family take part in making decisions** about my health care.	
19. **My health care team works together.** They talk to each other and share information.	
20. **The staff know how to care for older people.** I feel well looked after.	
21. **The staff have time to spend with us.** They can share a cup of tea or join in activities and celebrations.	
22. **The staff understand we're all different.** They treat us as individuals.	

Final open-ended question: And is there anything that would improve your life here in the MPS? _____

Family checklist questions

Here at <*MPS name*>, we are working to improve the way we care for our residents and would appreciate your honest feedback about how we are going in a number of areas.								
Thinking about what you've seen, heard or experienced here during the last 3 months, how often have you felt the following … ? **Response options:** Never/rarely, Sometimes (< ½ time), Often (~ ½ time), Usually (> ½ time), Always, Not applicable or Don't know								
1. The staff really care about the residents. They understand residents' likes and dislikes.								
2. The residents seem to know the staff well. There are good relationships between residents and staff.								
3. The staff respect residents' varying cultures and my beliefs. Residents can be themselves.								
4. The residents seem to know the MPS well. They're kept up-to-date about daily life & the services here.								
5. The residents choose how to spend their days. They choose when to eat, bathe, sleep, their activities and who they spend time with.								
6. The staff understand the residents' health and support needs.								
7. The staff understand the residents' end of life or **advanced care** preferences.								
8. The residents feel at home here. They can display favourite things, use their own furniture and hang photos.								
9. We, as family and friends, feel welcome here. We have nice places to sit, talk, or eat together.								
10. The staff focus on what residents can do. They involve residents in activities here and in the community.								
11. The residents seem to enjoy living here. There are activities they like doing and they feel part of the local community.								
12. The food is good. It looks good, smells good and tastes good.								
13. There are nice places to eat. The dining areas feel homely and comfortable.								
14. The residents can choose what they eat and drink. There is a choice of meals and between-meal snacks.								
15. The residents can choose where they eat and who they eat with. They can dine alone or with others, indoors, outdoors or in their rooms.								
16. The residents get the health care and other supports they need. This includes physical, mental and dental health care and other therapies (eg: physiotherapy, massage, nutrition advice).								
17. The residents take part in making decisions about their health care.								

18. We, as carers and family, take part in making decisions about our loved ones' health care.								
19. The various health care team members seem to work together. They talk to each other and share information.								
20. The staff know how to care for older people. The residents seem well looked after.								
21. The staff have time to spend with the residents. They can share a cup of tea or join in activities and celebrations.								
22. The staff understand the residents are all different. They treat them as individuals.								
23. We, as carers and family, are kept up-to-date about daily life & the services here.								

Final open-ended question: And is there anything you think would improve residents' lives here in the MPS? _____

Resident survey questions

***<MPS name>* is taking part in a program which is trying to optimise residents' wellbeing and quality of life. We would appreciate you answering these questions – to help us understand how they are going with that.**		**Headline Indicator**	**Baseline/ Followup Survey**
1. Thinking about **your life here** **during the last month**, how would you rate each of the following ... ?			
a) The relationships you have with the nursing/ care staff	**Rating scale**: 0 (extremely poor) – 10 (extremely good), 5 = OK / variable	X	X
b) The relationships you have with the other staff (eg: dining, housekeeping)		X	X
c) The quality of your everyday life – given your current stage of life and circumstances		X	X
d) The amount of independence, choice or control you have over your life		X	X
e) Your usual level of physical wellbeing and comfort		X	X
f) Your overall mood or emotional wellbeing		X	X
g) The relationships your carer and family have with the nursing/ care staff			X
h) The relationships your carer and family have with the other staff (eg: dining, housekeeping)			X
2. What would you say is the best thing about living here?	Open-ended questions		X
3. What would you change if you could?			X
4. What advice would you give to help someone new settle in?			X
5. Thinking about both the good and bad things that make up your quality of life, how would you rate the quality of your life as a whole? **Rating scale**: Very good/ Good/ Alright/ Bad/ Very bad	**OPQoL standardised tool[1]** **Rating scale**: Strongly agree / Agree / Neither / Disagree / Strongly disagree *(except initial overall question)*		X
6. I enjoy my life overall			X
7. I look forward to things			X
8. I am healthy enough to get out and about			X
9. My family, friends or neighbours would help me if needed			X
10. I have social or leisure activities/ hobbies that I enjoy doing			X
11. I try to stay involved with things			X
12. I am healthy enough to have my independence			X
13. I can please myself what I do			X
14. I feel safe where I live			X
15. I get pleasure from my home			X
16. I take life as it comes and make the best of things			X
17. I feel lucky compared to most people			X
18. I have enough money to pay for household bills			X
19. Are you male or female?	Closing demographic questions		X
20. Which age group do you fit into? **Response options**: Under 50, 50s, 60s, 70s, 80s, 90+			X
21. How long have you lived at this MPS? **Response options**: years / months			X

[1] Bowling A, Hankins M, Windle G, Bilotta C, Grant R. (2013) A short measure of quality of life in older age: The performance of the brief Older People's Quality of Life questionnaire (OPQOL-brief). Archives of Geriatrics & Gerontology, 56:181-187.

Staff survey questions

***<MPS name>* is taking part in a program which is trying to optimise residents' wellbeing and quality of life. We would appreciate you answering these questions – to help us understand how they are going with that.**		**Headline Indicator**	**Baseline/ Followup Survey**
1. Thinking **about the last month**, how would you rate each of the following … ?			
a) The relationships between residents and the nursing/ care staff	**Rating scale**: 0 (extremely poor) – 10 (extremely good) 5 = OK / variable … with a not applicable/ don't know option	X	X
b) The relationships between residents and other staff (eg: dining, housekeeping)		X	X
c) The quality of the residents' everyday life – given their current stage of life and circumstances		X	X
d) The amount of independence, choice or control the residents have over their lives		X	X
e) The residents' usual level of physical wellbeing and comfort		X	X
f) The residents' overall mood or emotional wellbeing		X	X
g) The range of activities available for residents			X
h) How quickly staff respond to any changes in residents' health or wellbeing			X
i) The physical environment – generally			X
j) The residents' own rooms/ personal spaces			X
k) The food and dining experience			X
l) The relationships between residents' carers/ families and the nursing/ care staff		X	X
m) The relationships between residents' carers/ families and other staff (eg: dining, housekeeping)		X	X
n) How well you and your colleagues function as a team			X
o) Your level of understanding about delivering high quality residential aged care		X	X
p) The overall quality of care you are able to deliver to residents			X
q) How well supported you feel to do your job well			X
r) Your overall job satisfaction			X
2. What would you say is the best thing about working here?	Open-ended questions		X
3. What would you change if you could?			X
4. What advice would you give to someone new coming to work here?			X
5. To what extent do you think the care you provide should be tailored around individual resident's needs?	**Rating scale**: 0 (not at all) – 10 (totally)	X	X
6. And to what extent do you think the care provided in this MPS is currently tailored around individual resident's needs?		X	X

7. How involved have you been in the recent *Living Well in MPS* project activity here?	Open-ended questions (Followup only)		X
8. Do you think the *Living Well in MPS* project has resulted in any changes for residents? ... If so, what changes?			X
9. Do you think the *Living Well in MPS* project has resulted in any changes for the staff? ... If so, what changes?			X
10. How did you find being part of the *Living Well in MPS* project?			X
11. Which of these best describe your role within the MPS? **Response options**: Administrative, Food service, Housekeeping, Maintenance, Management, Nursing/ care staff, Security, Other – please specify: _____	Closing demographic questions	X	X
12. How long have you worked at this MPS? **Response options**: years / months		X	X