Development of quality indicators for in-home aged care

Evidence review summary report

December 2021

pwc

THE UNIVERSITY OF QUEENSLAND
AUSTRALIA

ROSA
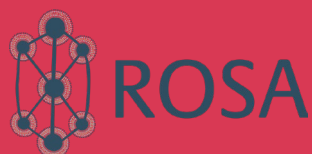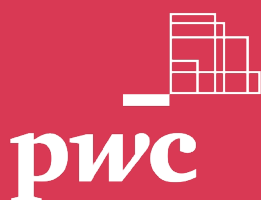
Disclaimer

This evidence review summary report (this document) is not intended to be used by anyone other than the Department of Health and Aged Care (the Department).

We prepared this evidence review summary report solely for the Department's use and benefit in accordance with and for the purpose set out in the Work Order with the Department dated 23 September 2021. In doing so, we acted exclusively for the Department and considered no-one else's interests.

We make no representation concerning the appropriateness of this document for anyone other than the Department. If anyone other than the Department chooses to use or rely on it they do so at their own risk.

Liability limited by a scheme approved under Professional Standards legislation.

Contents

Executive summary

A consortium consisting of PricewaterhouseCoopers (PwC), the Centre for Health Services Research at the University of Queensland (UQ CHSR) and the Registry of Senior Australians (ROSA) at the South Australian Health and Medical Research Institute (SAHMRI) has been engaged by the Australian Government Department of Health and Aged Care (the Department) to assist in the development of quality indicators for in-home aged care. The project, to develop quality indicators, is intended to guide the further expansion of the National Aged Care Mandatory Quality Indicator Program (QI Program).

A targeted review of national and international literature has been undertaken to identify evidence based quality of care domains and quality indicators for possible expansion of the QI Program to in-home aged care. The domains and quality indicators identified were then distilled for consideration to take to consultation with aged care stakeholders and technical experts, to inform those which should be piloted with in-home aged care services.

Evidence review and assessment

A multi-step process has been undertaken to scan and identify relevant quality of care domains and quality indicators from published and grey literature. In line with an analytic framework developed for the project, the identified domains and individual quality indicators have been prioritised and ranked based on the sufficiency and quality of their evidence base, and their potential value to the QI Program.

The consumer experience and quality of life (CEQOL) domain has been excluded from this review due to work previously completed in this area by a separate Department appointed Consortium. Figure 1 summarises the number of quality of care domains and quality indicators that were identified at each stage of the evidence review process.

Figure 1: Number of quality of care domains and quality indicators identified by stage
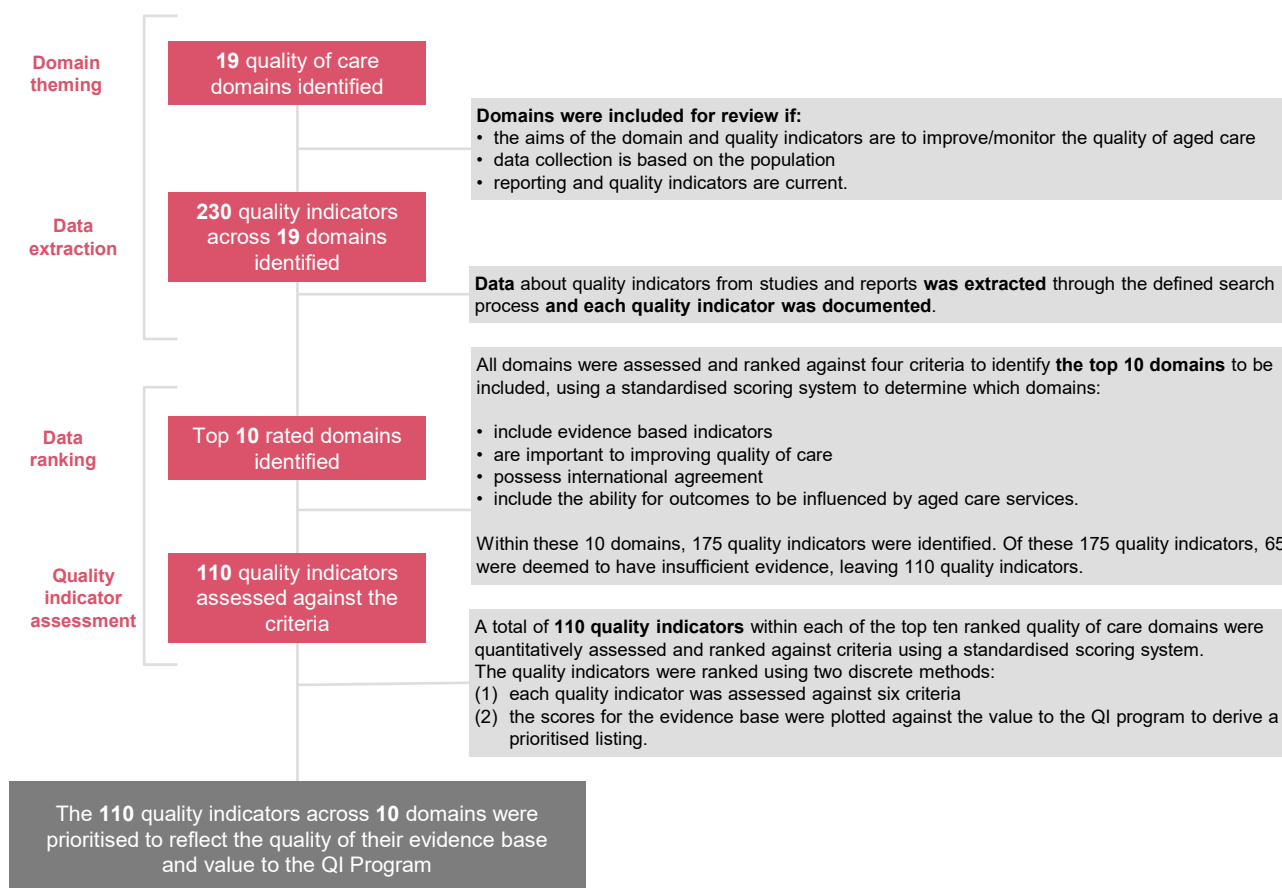
Executive summary

This review identified 19 domains of quality of care and 230 quality indicators used for in-home aged care across several countries. Each domain was assessed and ranked in terms of:

- high quality evidence-based indicators were identified in the domain
- international agreement that the domain is important
- in-home aged care services can influence care and consumer experience in this domain
- monitoring this domain is important for high quality care and consumer experience.

Based on this quantitative assessment, the quality of care domains in ranked order are:

1. Function and Activities of Daily Living (ADLs)
2. Service delivery and care plans
3. Weight loss/malnutrition/dehydration
4. Falls and major injuries
5. Pressure injuries/skin integrity
6. Workforce
7. Pain
8. Continence
9. Hospitalisations (including emergency department presentations)
10. Depression
11. Carer distress
12. Medication related
13. Wait times/system access
14. Behavioural symptoms
15. Infection (including antibiotics and vaccinations)
16. Cognition
17. Palliative care
18. Other clinical
19. Mortality

A total of 175 associated quality indicators were identified for the top 10 ranked domains. Of the 175 quality indicators, 65 were deemed to have insufficient evidence for a full assessment, leaving 110 quality indicators to be assessed. Each of those quality indicators has been assessed against the US National Quality Forum criteria modified for the Australian aged care and quality indicator context, with two additional criteria proposed by the consortium and agreed to by the Department. A standardised scoring scale was assigned by evaluating the quality indicator against the following 6 criteria:

- importance
- scientific acceptability
- feasibility
- usability
- attribution
- value to the QI Program.

Quality indicators within each domain were then ranked in order of priority based on their evidence (ie the first 5 criteria) and value to the QI Program using a prioritisation matrix. The executive summary presents the top 10 ranked quality of care domains (in order of ranking) and their associated quality indicators (Table 1). Please note that the terms 'clients' and 'patients' are used interchangeably throughout the document as are aligned to the terminology used in their source jurisdiction. Unique identifying names have been assigned to each quality indicator to help differentiate those that are very similar. These unique names are at times different to the specific names used in their source documentation or jurisdiction.

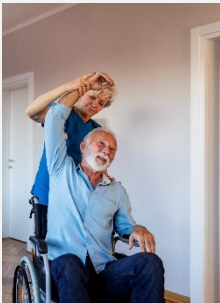Table 1: Highest ranked domains and their prioritised quality indicators

Domains	Domain description and quality indicators
1. **Functions and ADLs** **Chapter 4**	There are two categories of activities of daily living – basic activities of daily living (ADLs) and instrumental activities of daily living (IADLS). Basic ADLs include the fundamental skills needed to manage basic physical needs such as personal hygiene, dressing, toileting/continence, transferring or ambulating, and eating. IADLS are more complex tasks such as managing finances, preparing meals and communication. The prioritised quality indicators for this domain include: 1.1 Clients whose ability to perform daily activities (such as eating and bathing) decreased over the six months 1.2 Clients whose ADL functioning declined (bathing, personal hygiene, locomotion) (incidence) 1.3 Clients with a score of less than 18 on the baseline ADL Long Form who decline further (incidence) 1.4 Clients with baseline impairment and a better score on the ADL Long Form (incidence) 1.5 Clients with a score of less than 15 on the IADL self-performance summary scale at baseline who declined (incidence) 1.6 Clients with a score of less than 18 on the baseline IADL Scale who decline further (incidence) 1.7 Clients who decline in independence since their last assessment 1.8 Clients with a score greater than 0 on the IADL self-performance summary scale at baseline who experience an improvement (incidence) 1.9 Clients who do not have an assistive device and have difficulty in mobility 1.10 Clients with impaired mobility within their home (incidence) 1.11 Patient improvement in ability to ambulate 1.12 Patients who improved or stayed the same in their ability to bathe 1.13 Patients who improve in self-bathing 1.14 Patients who improve or stay the same in their ability to get in and out of bed 1.15 Patients who improved in their ability to get in and out of bed 1.16 Patients who improved in their ability to get to and from and on and off the toilet 1.17 Clients who have rehabilitation potential and do not receive therapy 1.18 Patients who improve or stay the same in ability to manage toileting hygiene 1.19 Patients who improve or stay the same in their ability to get to and from and on and off the toilet 1.20 Patients who improve or stay the same in ability to groom self 1.21 Patients who improve in their ability to dress lower body 1.22 Patients who improve in their ability to dress upper body

Domains	Domain description and quality indicators
2. Service delivery and care plans **Chapter 5**	The service delivery and care planning domain includes a series of services that intend to measure whether care is planned for, integrated with, and individualised for each person. According to the Australian Aged Care Quality Standards, aged care services are expected to demonstrate ongoing assessment and planning with their consumers. Care planning, specifically co-developed with clients and person centred, is recognised as a fundamental aspect of service delivery to all consumers receiving in-home aged care services.

The prioritised quality indicators for this domain include:

2.1 Clients involved in developing their home care plan

2.2 Client input into assistance, ability to influence care times, staff ability to carry out work in required timeframe

2.3 Clients with an updated care plan

2.4 Safety incidents related to missed or late home care visits

2.5 Clients with care plans that identify how their personal priorities and outcomes will be met

2.6 Clients whose home care plan includes their personal priorities and outcomes

2.7 Evidence of process to ensure home care plans identify personal priorities and outcomes of clients will be met

2.8 Clients who have a review of the outcomes of their home care plan within a year of their previous review

2.9 Evidence of process to ensure clients have a review of the outcomes of their home care plan at least annually

2.10 Clients who have a review of the outcomes of their home care plan within six-weeks of the service starting

2.11 Evidence of process to ensure that clients have a review of the outcomes of their home care plan within six-weeks of the service starting

2.12 Patients discharged to the community who do not have an unplanned admission to an acute care hospital or long-term care hospital in the 31 days and remain alive

2.13 Evidence of process to ensure clients have a home care plan that identifies how their provider will respond to missed or late visits

2.14 Planned home care visits that are missed

2.15 Clients with a chronic disease management plan

2.16 Clients that have a home care plan that identifies how their provider will respond to missed or late visits

2.17 Clients who receive home care with risk prevention measures for malnutrition

2.18 Visits of less than 30 minutes with a prior agreement that a shorter visit is acceptable

2.19 Evidence of process to ensure clients have visits of at least 30 minutes unless otherwise agreed for a specific reason

2.20 Clients who receive home care with risk prevention measures for pressure ulcers

2.21 Visits lasting 30 minutes or longer

2.22 Clients who receive home care with risk prevention measures for impaired oral health

Domains	Domain description and quality indicators
3. Weight loss/malnutrition/ dehydration **Chapter 6**	Unplanned weight loss is the result of deficiency in a person's dietary intake relative to their needs and may be a symptom and consequence of disease. Malnutrition is the lack of proper nutrition and can be caused by not having enough to eat, not eating enough of the right things, or not being able to use the food and nutrition that one does eat. Dehydration occurs when you use or lose more fluid than you take into your body, and your body does not have enough fluids to carry out its normal functions. Unplanned weight loss, malnutrition and/or dehydration are reported in up to a third of older adults and can be associated with poor health outcomes, reduced quality of life and related healthcare costs. Unplanned weight loss can be a clinical symptom and consequence of poor health or presence of disease and is one of the best indications of poor nutrition in older people. Weight loss and malnutrition are associated with higher mortality and morbidity, including increased risk of falls and fracture, pressure injury development, hospitalisations, infections, poor recovery from disease or surgery, reduced physical and mental function, and lower quality of life.
	The prioritised quality indicators for this domain include: 3.1 Clients who experienced weight loss 3.2 Clients with unintended weight loss at follow-up 3.3 Clients with weight loss in the last 30 days 3.4 Clients who present to Emergency Department or are hospitalised and weight loss or malnutrition were reported 3.5 Clients with unintentional weight loss (client reported) 3.6 Clients with dehydration 3.7 Clients with dehydration in the last 30 days
4. Falls and major injuries **Chapter 7**	A fall is an event that results in a person coming to rest inadvertently on the ground or floor or other lower level. A fall resulting in major injury is a fall that meets this definition and results in one or more serious injuries like bone fractures, joint dislocations, or closed head injuries. Falls in older people are a public health priority due to their high prevalence, related injuries, increased risk of mortality and reduced quality of life. In Australia, falls are the leading cause of hospitalised injury and injury-related deaths in older people. A third of older people living in the community fall at least once every year. There are many factors that influence falls, and many of these factors can be prevented.
	The prioritised quality indicators for this domain include: 4.1 Clients who fell 4.2 Clients who experienced one or more falls in the last 90 days 4.3 Clients experiencing one or more falls requiring medical attention 4.4 Clients with new fall-related injuries and breaks 4.5 Clients experiencing at least one fall-related fracture 4.6 Clients with new fall-related injuries (fractures, second- or third-degree burns, unexplained injuries) 4.7 Patients experiencing one or more falls with major injury 4.8 Clients who fall with trauma (last 30 days) 4.9 Clients with an incident of falling 4.10 Hip fractures among people 65 years and older (3 year average) 4.11 Clients with fall injuries admitted to hospital among people 80 years and older (3 year average)

Domains	Domain description and quality indicators
5. Pressure injuries/ skin integrity **Chapter 8**	A pressure injury is a localised injury to the skin and/or underlying tissue, usually over a bony prominence, due to pressure, shear, or a combination of these factors. Pressure injuries are potentially life threatening, decrease a person's quality of life, and are expensive to manage. The older population are at higher risk of developing pressure injuries, because of skin and soft-tissue changes associated with ageing as well as other age-related impairments such as malnutrition, immobility, incontinence, impaired cognitive status, and frailty.
	The prioritised quality indicators for this domain include:
	5.1 Percentage of quality episodes in which the patient has one or more Stage 2-4 pressure ulcers, or an unstageable ulcer/injury, present at discharge that are new or worsened since the beginning of the quality episode
	5.2 Proportion of HCP episodes where clients had an emergency department presentation or hospitalisation where pressure injury was reported
	5.3 Pressure ulcer or skin tear in the last 30 days
	5.4 Incidence of clients with a skin ulcer
	5.5 Proportion of clients with a pressure ulcer
6. Workforce **Chapter 9**	Aged care is one of Australia's largest service industries. In 2020 the industry employed 434,000 paid workers, with the majority (76 per cent) in direct care roles. This includes 123,048 direct care staff employed in the home care setting (home care packages and home support services). Findings from the Royal Commission into Aged Care Quality and Safety have reported Australia's aged care system is understaffed and undertrained.
	The prioritised quality indicators for this domain include:
	6.1 Responsiveness of staff, safety living at home, and confidence in staff
	6.2 Number of home care workers providing care to an older person
	6.3 Staff helping a client in 14-day period (average)
	6.4 Staff retention
	6.5 Visits for each client per home care worker
	6.6 Evidence of processes to ensure consistent team of workers for each client
	6.7 Evidence of supervision discussions with home care workers (every 3 months)
	6.8 Workers who had a supervision discussion (within 3 months)
7. Pain **Chapter 10**	Pain affects a significant and increasing portion of older adults. Pain affects people's functional capabilities, activities of daily living, quality of life, and overall disability. In a geriatric, frail person, or person with dementia, the effect of pain may be even more pronounced and cause more serious complications.
	The prioritised quality indicators for this domain include:
	7.1 Clients who complained or showed evidence of daily pain
	7.2 Clients with pain (on pain medication or no pain medication)
	7.3 Clients who have pain and are receiving inadequate pain control or no pain medication
	7.4 Clients with at least daily episodes of severe pain at follow up
	7.5 Clients with daily pain (over 3 days)
	7.6 Clients with inadequate pain control
	7.7 Clients with a reduction in pain
	7.8 Clients whose pain improved
	7.9 Clients with daily severe pain

Domains	Domain description and quality indicators
8. Continence **Chapter 11**	Incontinence is the involuntary loss of bladder and bowel control. Age-related changes together with frailty, cognitive decline, or impaired mobility, can put older adults at risk of incontinence. Incontinence is known to increase the risk of poor health outcomes, such as falls, fractures, hospitalisations, mortality, poor quality of life, functional impairment, and deterioration in mental health. The prioritised quality indicators for this domain include: 8.1 Clients who had difficulty controlling urination 8.2 Clients who experience a decline in bladder continence 8.3 Clients who experience a decline in bladder continence (incidence) 8.4 Clients who experience an improvement in bladder continence 8.5 Patients with improvement in bowel control 8.6 Patients with bladder or bowel problem in last 30 days 8.7 Clients diagnosed with incontinence by doctor or specialised nurse 8.8 Clients with a catheter 8.9 Clients with obstipation (incidence)
9. Hospitalisation **Chapter 12**	Hospitalisations are admissions to hospitals to receive treatment, which can be planned (ie elective) or unplanned. Emergency department care is also provided in many hospitals, and this includes urgent care provision that may or may not result in hospital admissions. Approximately a third of Australians receiving home care packages experienced unplanned hospitalisation each year. Many hospitalisations are considered potentially preventable with preventative health interventions, early disease management, or potential better access to certain care. The top ranked quality indicators for this domain include: 9.1 Emergency Department presentation within 30 days of discharge from hospital 9.2 Emergency Department visits by new home care clients in 30 days after leaving hospital 9.3 Patients who had a potentially preventable 30 day post-discharge readmission 9.4 Clients who require hospital stay or Emergency Department care 9.5 Hospitalisation or Emergency Department use in the 90-day period before follow-up assessment 9.6 Readmissions for new home care clients 30 days after leaving hospital 9.7 Acute care hospitalisation during first 60 days of home health stay 9.8 Hospital admission in 30 days between surveys 9.9 Emergency Department presentation or hospitalisation for medication-related events 9.10 Patients discharged to community with no unplanned acute hospital or long-term care facilities in 31 days after discharge 9.11 Clients who require hospitalisation, emergency department presentation or emergent care 9.12 Emergency Department presentation for clients with dementia or clients hospitalised for delirium or dementia 9.13 Emergency Department use without hospitalisation during the first 60 days of home health stay

Domains	Domain description and quality indicators
10. Depression **Chapter 13**	Depression is a common and serious mood disorder that can affect all aspects of an individuals' life. Individuals who suffer depression may experience persistent feelings of sadness and hopelessness and lose interest in activities they normally would enjoy. The top ranked quality indicators for this domain include: 10.1 Clients whose mood declined 10.2 Clients with fewer depressive symptoms 10.3 Clients with more depressive symptoms 10.4 Clients suffering from depression

Summary and discussion

The objective of this evidence review is to identify, assess and present the evidence base for quality of care domains and quality indicators suitable for application to in-home aged care. This evidence base will inform the domains and quality indicators for stakeholder consultations prior to the selection of quality indicators for pilot.

The evidence review and application of the analytic framework identified the top 10 ranked domains. The 175 associated quality indicators were assessed and ranked against 6 criteria and prioritised based on the assessment of the evidence base and value to the QI Program. Key considerations which may impact the quality indicators for pilot include:

> **Selecting domains and quality indicators for pilot that support the quality improvement objective of the QI Program**

This project aims to identify a set of domains and quality indicators to pilot within the in-home aged care setting in Australia.

The overall objectives of the QI Program are to:

- provide older people with more information about the quality of aged care services when making choices about their care

- support aged care services to measure, monitor, compare and improve the quality of their services

- provide the government with system-level measures of quality in aged care and an evidence-base to inform policy and regulation.

The pilot should include a selection of quality indicators that are able to be influenced, changed, or improved by in-home aged care services, where their actions can change the outcome over time. Driving quality improvement can occur when the quality indicator is used within organisations or shared in an anonymised format among organisations.

These quality indicators can be used to monitor performance over time, with the assumption that the consumer profiles are fairly stable within an organisation or can be used among collaborating organisations to promote quality improvement discussions.

A key consideration identified during this review is that not all quality indicators can be influenced directly by aged care services, as evident in the 'attribution' criteria assessment results for the applicable quality indicators. Most quality of care domains for in-home aged care are not exclusively affected by the service. Good outcomes for in-home aged care consumers depends on the complex contributions of medical and allied health practitioners, local hospitals, carers and other family members, the person themselves and the in-home aged care service.

Even for those quality indicators where there is evidence that a service can substantially influence outcomes for the consumer, consideration needs to be given to what this might look like in a reformed in-home aged care system where consumers can choose from more than one service provider. This may mean that outcomes of these quality indicators for

the consumer may not be able to be attributed to any one service, rather they may be influenced more by the collective interplay of multiple services supporting that person.

Several other quality indicator reporting systems tailor in-home aged care indicators to specific services or consumer groups (eg only to in-home aged care consumers receiving nursing or clinical services in the United States of America) which is a possible approach when considering attribution challenges.

In order to support quality improvement as a key objective of the QI Program, quality indicators for pilot could focus on either 'improvement' or 'decline' type measurements. Stakeholder and expert advice on the technical aspects of quality indicators will be sought to determine which approach to measurement is more useful in supporting quality improvement.

Domains and quality indicators for pilot that support the consumer information objective of the QI Program

The pilot should include a selection of quality indicators that are meaningful to consumers and assist their understanding of the quality of care provided by the service and how this differs from other services. The potential use of quality indicators for identifiable public reporting requires the inclusion of quality indicators that can detect differences in the performance of in-home aged care services.

For this reason, it is important to select quality indicators to pilot which can:

- be scored consistently within and between services,

- allow for a range of performance by services (eg no ceiling or floor effect or rare occurrences), and

- be risk adjusted to account for the variations in consumers and services (potentially requiring additional data linked at the individual level).

Not all quality indicators identified in the review would be meaningful for consumers to support informed decision making about in-home aged care services.

Use of quality indicators that are subject to copyright and licencing arrangements

Many of the quality indicators prioritised in this evidence review are derived from data elements (usually clinical observations) that are subject to copyright and licensing agreements.

Licenses would need to be obtained to include these quality indicators in the pilot, as is the case for many quality indicators used in Canada, Finland, Iceland, New Zealand and the United States of America (where interRAI systems are mandated).

Use of quality indicators that require multiple observations within a six-week pilot

Several quality indicators require multiple assessments over a longer period of time, potentially preventing appropriate assessment during the six-week project pilot period. For example, a quality indicator that measures functional decline over 3 months will require two points of data collection (one at the start of month one and one at the end of month 3). For indicators where repeat measures are required, in a six-week pilot study, only the base (or initial) measure can be tested for ease of completion or prevalence of the issue, but the full indicator cannot not be calculated.

The in-home aged care system is designed to allow both choice by consumers as well as the ability to increase or decrease services in response to variation in care needs. This poses challenges in data collection where sequential observations to account for movement of consumers between different services are required. This could be managed within the pilot by the careful selection of quality indicators and guidance to services and will need to be considered as part of an expanded QI Program.

 The feasibility of data collection directly from aged care services for some quality indicators

Quality indicators selected for pilot are likely to require similar methods for data collection as the current QI Program, including direct collection from services on a quarterly basis. Several quality indicators identified in this review use data obtained from non-provider sources, potentially reducing data burden for in-home aged care services in the pilot.

The potential data collection burden for aged care services to participate in the quality indicator pilot needs to be considered. For some of the quality indicators outlined in this review, data does not currently exist in a format that would be easily accessible for services to report during the pilot. To operationalise many of the prioritised quality indicators in the pilot, new data would need to be collected by services, and in some cases, using new instruments or screening tools not routinely used.

Data collection burden may vary depending on service characteristics (eg digital record keeping, service maturity, service size, infrastructure), data source required, number of observations or measurements needed, use of specific instruments/tools and if the data requires specific staff to collect (eg nursing staff).

- For services that provide both residential and in-home aged care, the data collection burden for piloting some of the quality indicators in in-home aged care may be reduced by using existing processes and reporting mechanisms developed for domains in the current QI Program.

- For many quality indicators, a point prevalence approach is used (eg. how many in-home aged care consumers have a pressure injury at a point in time). These types of indicators are possible to collect by in-home aged care services on a single day or week for the pilot, but only for consumers who receive services during the pilot period. To overcome this, some jurisdictions use a 'virtual' point prevalence approach for their quality indicators. For example, all clients of the service are assessed every 6 months from admission to their service, and the prevalence is calculated from the most recent assessment (which might be more than 6 months old). These issues of 'how' to collect information for all, or a subset of, consumers in the pilot need to be considered together with careful selection of quality indicators.

 Accounting for different consumer populations and types of services in the pilot

In-home aged care services are as diverse as the needs of the consumers that access them. Within in-home aged care, considerable variation exists in the type and complexity of services offered (from gardening through to wound care) and the consumers accessing services (from irregular support through to daily care needs, including those with the highest level of care support needs).

Many of the domains and quality indicators would apply to only a subset of services and consumers within in-home aged care. For example, the domain of continence contains quality indicators that would apply only to the sub-set of consumers with incontinence issues, and to the services who specifically provide continence support.

The application of domains and quality indicators to different consumer groups within the broader in-home aged care system poses several challenges for the pilot. Consideration should be given to tailoring the pilot to test quality indicators for specific types of services and consumers where it makes sense to do so.

Several international quality indicator programs have incorporated risk adjustment for consumer characteristics. The need to collect information on relevant diagnoses and underlying health profiles of the service's populations should be considered to understand quality indicator performance for different services during the pilot.

The specific focus of quality indicators in a domain for the pilot.

Many quality indicators identified in each domain in this review reflect slight variations in definitions from different countries. This has resulted in the inclusion of multiple quality indicators within the same domain that measure the same or very similar concepts. Some of these variations in definitions are attributable to international bodies using different versions of the same instruments. The value of measuring a specific concept needs to be considered when selecting quality indicators from the range identified in each domain for pilot.

The use of validated or standardised tools for measurement

Several of the quality indicators identified in this review require the use of validated and/or standardised scoring instruments. These may require complex measurement (eg multi-item scales), specific training requirements for data collection and licensing and copywrite arrangements. The selection of quality indicators for pilot will need to consider if there are validated or standardised instruments in in-home aged care that could be used to collect data and if it is feasible to provide training on the use of specific instruments prior to the pilot.

Augmenting the evidence review with advice from stakeholders

As part of developing quality indicators for in-home aged care, the next step will be to take the domains and quality indicators found in the evidence review to consultation with aged care stakeholders and a technical expert group. This feedback will help guide the potential domains and quality indicators for pilot and the further expansion of the QI Program.

1

Project background

Overview

A consortium consisting of PricewaterhouseCoopers (PwC), the Centre for Health Services Research at the University of Queensland (UQ CHSR) and the Registry of Senior Australians (ROSA) has been engaged by the Australian Government Department of Health and Aged Care (the Department) to assist in the development of quality indicators for in-home aged care. The project, to develop quality indicators, is intended to guide the further expansion of the National Aged Care Mandatory Quality Indicator Program (QI Program).

The overall aims of the QI Program are to:

- provide older people with more information about the quality of aged care services when making choices about their care

- support aged care services to measure, monitor, compare and improve the quality of their services

- provide the government with system-level measures of quality in aged care and an evidence-base to inform policy and regulation.

The QI Program currently collects quarterly data from residential aged care services across 5 quality of care domains. Quality indicator data is published de-identified by the services and in aggregate by the Australian Institute of Health and Welfare (AIHW) at a national, state and territory level on the GEN Aged Care Data website. To date, the scope of the QI Program has not extended to in-home aged care.

The project commenced in September 2021; the consortium has been engaged to identify, assess, and pilot evidence based quality indicators across five quality of care domains and examine the use of assessment tools for a consumer experience and quality of life (CEQOL) domain for in-home aged care.

Purpose of this deliverable

This document constitutes the 'report for evidence review' deliverable under section 13 of the Work Order issued by the Department. The purpose of this report is to:

- synthesise the findings of an evidence review relating to quality of care domains and evidence-based quality indicators for in-home aged care

- provide information to assist stakeholder consultation activities that will seek feedback on the potential domains and quality indicators for pilot to guide the further expansion of the QI Program.

Document scope

This summary report presents an overview of the approach taken for the evidence review, the assessment of the evidence and additional considerations to support consultation and implementation. Each chapter of this report focuses on one of the 19 highest ranked quality of care domains identified through the evidence assessment and the associated quality indicators. The following key elements have been detailed:

- an overview of each domain and the associated quality indicators

- ranked quality indicators based on the outcomes of the assessment against specific criteria

- details and performance characteristics of quality indicators assessed as having a high quality of evidence and high value for application to the QI Program (Appendix C)

- a list of additional considerations for use of the quality indicators within the QI Program

- key references for each domain (Appendix A).

2

Evidence review methodology
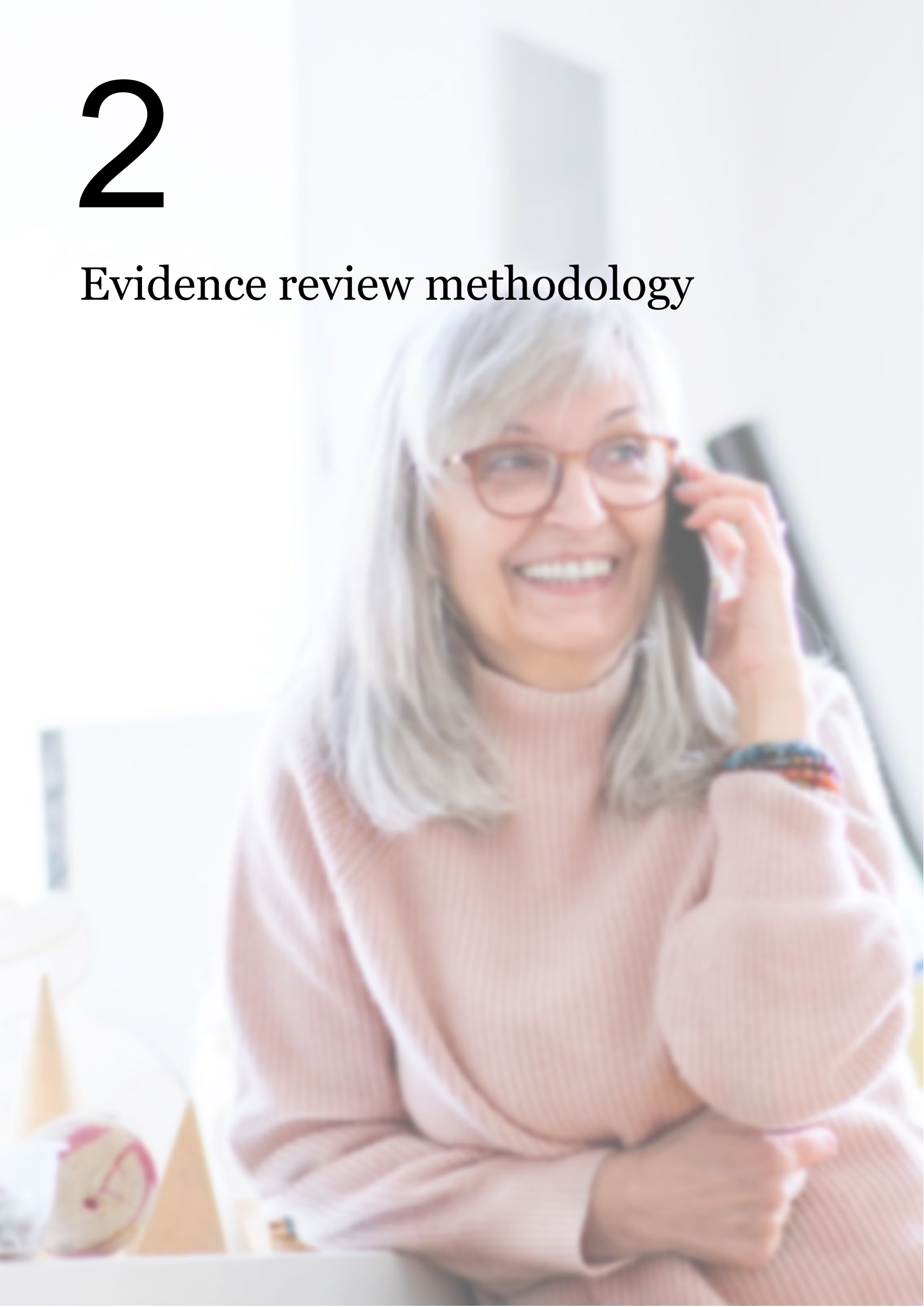
Objective of the evidence review

The objectives of the evidence review are to:

- identify common quality indicator domains for in-home aged care, recommending at least 10 for further consideration in the context of the QI Program

- identify all existing quality indicators across the identified domains, with a focus on quality indicators that have established performance characteristics and the ability to improve quality of care in meaningful ways

- using an analytic framework, assess and rank the domains and associated quality indicators in order of preference for implementation in the Australian aged care context.
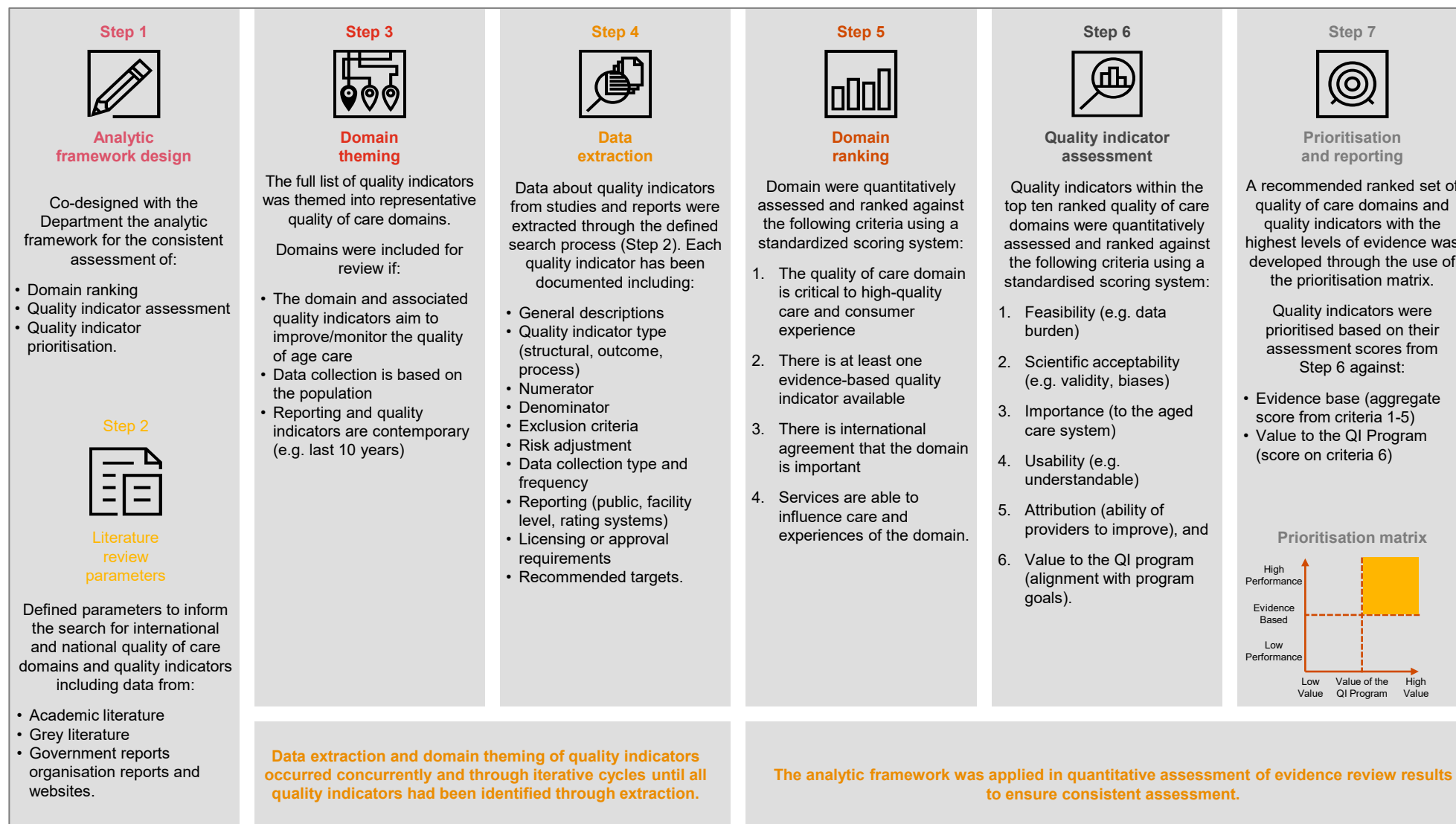
Overview of the evidence review methodology

The process involved members of the consortium comprising of clinicians, measurement scientists and policy experts, to appraise both domains of care and their associated quality indicators. The consortium used a modified Delphi technique to appraise the domains and quality indicators to secure consensus by undertaking several steps including:

- co-design of an analytic framework with the Department to enable a systematic and consistent assessment of quality of care domains and prioritisation of quality indicators

- defining clear parameters for the evidence review and developing the format for evidence synthesis

- initial scan of all quality indictors and themed domains

- extraction and summary of key data from the identified literature

- identification of the range of domains for existing quality indicators

- assessment of each domain against 4 criteria (international agreement, evidence based indicators, importance, and ability of the service to influence)

- ranking of domains in order based on their assessment against these 4 criteria

- based on this quantitative assessment, the top 10 domains have been put forward as those mostly appropriate for consideration in the pilot

- all quality indicators within the top 10 domains were assessed against the analytic framework criteria: feasibility, scientific acceptability, importance, attribution, usability (collectively termed 'evidence base') and the value to the QI Program

- prioritisation of quality indicators based on analytic framework assessment of their evidence base and value of the quality indicator to the QI Program.

The consortium members involved in the assessment provided individual assessments of domains and quality indicators based on analytic framework guidance. Aggregate scores were developed and individual scores that deviated 2 points from the median were identified. An extensive discussion was conducted with a particular focus on areas of disagreement (ie where a member's score varied considerably from the group median score). After discussion, all members were offered the opportunity to rescore. Final scores were then collated to produce the final assessments and ranking. An overview of this methodology is presented in below and a detailed methodology is included in Appendix B.

Please note that the terms 'clients' and 'patients' are used interchangeably throughout the document as are aligned to the terminology used in their source jurisdiction. Unique identifying names have been assigned to each quality indicator to help differentiate those that are very similar. These unique names are at times different to the specific names used in their source documentation or jurisdiction.

Figure 2: Evidence review methodology

Step 1	Step 3	Step 4	Step 5	Step 6	Step 7
Analytic framework design	**Domain theming**	**Data extraction**	**Domain ranking**	**Quality indicator assessment**	**Prioritisation and reporting**

Step 1

Analytic framework design

Co-designed with the Department the analytic framework for the consistent assessment of:

• Domain ranking
• Quality indicator assessment
• Quality indicator prioritisation.

Step 2

Literature review parameters

Defined parameters to inform the search for international and national quality of care domains and quality indicators including data from:

• Academic literature
• Grey literature
• Government reports organisation reports and websites.

Step 3

Domain theming

The full list of quality indicators was themed into representative quality of care domains.

Domains were included for review if:

• The domain and associated quality indicators aim to improve/monitor the quality of age care
• Data collection is based on the population
• Reporting and quality indicators are contemporary (e.g. last 10 years)

Step 4

Data extraction

Data about quality indicators from studies and reports were extracted through the defined search process (Step 2). Each quality indicator has been documented including:

• General descriptions
• Quality indicator type (structural, outcome, process)
• Numerator
• Denominator
• Exclusion criteria
• Risk adjustment
• Data collection type and frequency
• Reporting (public, facility level, rating systems)
• Licensing or approval requirements
• Recommended targets.

Step 5

Domain ranking

Domain were quantitatively assessed and ranked against the following criteria using a standardized scoring system:

1. The quality of care domain is critical to high-quality care and consumer experience

2. There is at least one evidence-based quality indicator available

3. There is international agreement that the domain is important

4. Services are able to influence care and experiences of the domain.

Step 6

Quality indicator assessment

Quality indicators within the top ten ranked quality of care domains were quantitatively assessed and ranked against the following criteria using a standardised scoring system:

1. Feasibility (e.g. data burden)

2. Scientific acceptability (e.g. validity, biases)

3. Importance (to the aged care system)

4. Usability (e.g. understandable)

5. Attribution (ability of providers to improve), and

6. Value to the QI program (alignment with program goals).

Step 7

Prioritisation and reporting

A recommended ranked set of quality of care domains and quality indicators with the highest levels of evidence was developed through the use of the prioritisation matrix.

Quality indicators were prioritised based on their assessment scores from Step 6 against:

• Evidence base (aggregate score from criteria 1-5)
• Value to the QI Program (score on criteria 6)

Prioritisation matrix

High Performance

Evidence Based

Low Performance

Low Value | Value of the QI Program | High Value

Data extraction and domain theming of quality indicators occurred concurrently and through iterative cycles until all quality indicators had been identified through extraction.

The analytic framework was applied in quantitative assessment of evidence review results to ensure consistent assessment.

Parameters of the evidence review

This evidence review has some limitations requiring further consideration as outlined below:

- The availability and sufficiency of published quality indicator information. Quality indicators that lacked specific recorded information relating to the data requirements outlined above, including reporting specifications, numerator, and denominator definitions were excluded from this process.

- The availability of information specific to important inclusion, exclusion, and risk adjustment criteria for some quality indicators.

- The review was undertaken in a rapid timeframe. Whilst every effort was made to leverage existing work on quality indicators in Australia, a longer timeframe for review may have identified other quality indicators in existence.

- Slight variations in the specifications of quality indicators resulted at times in near duplications of quality indicators within the same domain. Additionally, domains that differ subtly in collection or reporting specification, for example measurement of improvement as opposed to decline, inflate the number of indicators measuring the same construct. Some of these variations may be attributable to international bodies using different versions of the same instruments. These similarities reduce the variance associated with ratings of similar quality indicators and should be noted when interpreting indicator scores.

- Whilst CEQOL domains are evidenced in the literature, these were not included within the review process to reduce duplication with work the Department currently has underway.

3

Evidence review prioritised domains

Overview

This chapter presents the findings in relation to the evidence review of quality of care domains and the ranked assessment of these domains for the pilot and possible expansion of the QI Program into in-home aged care.

Ranked quality of care domains

A total of 19 quality of care domains were identified through the literature review, with 230 associated quality indicators.[1] The existing domains in the QI Program for residential aged care services of pressure injuries, use of physical restraint, medications (polypharmacy and antipsychotics), falls and unplanned weight loss were included in this review.

The consortium quantitively assessed each of the 19 identified domains based on the 4 agreed criteria. The domains were then ranked according to aggregate scoring against the criteria. The ranked list of domains is shown in Table 2. Other than the 'other clinical' and 'mortality' domains, all other domains were assessed highly on the existence of measurable quality indicators, international agreement of their importance, importance for quality and safety of care and able to be influenced by the service.

Based on this quantitative assessment, the top 10 ranked quality of care domains have been put forward as those most appropriate for consideration in the pilot and their identified quality indicators were assessed in full against the indicator criteria (refer to Figure 2: Step 6). The results are summarised in the following chapters of this report.

Each chapter presents:

- an overview of the domain and quality indicators identified for each domain

- the ranked quality indicator for the top 10 domains and their assessment against the analytic framework

- the quality indicators prioritised with high quality of evidence and high value for application to the QI Program

- key considerations and limitations in using the quality indicators for pilot for an expanded QI Program

- details of domains outside the top 10 including ranking rationale and associated quality indicators

- relevant references associated with the evidence review of the domain.

Please note that the terms 'clients' and 'patients' are used interchangeably throughout the document as are aligned to the terminology used in their source jurisdiction. Unique identifying names have been assigned to each quality indicator to help differentiate those that are very similar. These unique names are at times different to the specific names used in their source documentation or jurisdiction.

Table 2: Quality of care domains aggregated score ranking against assessment criteria

| Ranking | Domain name | Quality indicators identified | Domain assessment criteria | | | | Aggregate score |
			Measurable quality indicators	International agreement	Service able to influence	Importance	
1	Function and ADLs	25	🟢	🟢	🟢	🟢	🟢
2	Service delivery and care plans	64	🟢	🟢	🟢	🟢	🟢
3	Weight loss/ malnutrition/ dehydration	7	🟢	🟢	🟢	🟢	🟢

---

[1] This excludes the additional domain of consumer experience and quality of life where an additional 44 indicators have been identified.

Evidence review prioritised domains

Ranking	Domain name	Quality indicators identified	Domain assessment criteria				Aggregate score
			Measurable quality indicators	International agreement	Service able to influence	Importance	
4	Falls and major injuries	14	High	High	Moderate	High	High
5	Pressure injuries/ skin integrity	6	High	High	High	High	High
6	Workforce	21	High	High	High	High	High
7	Pain	10	High	High	High	High	High
8	Continence	10	High	High	High	High	High
9	Hospitalisations (including emergency department presentations)	14	High	High	Moderate	High	High
10	Depression	4	High	High	Moderate	High	High
11	Carer distress	4*	High	High	Moderate	High	High
12	Medication related	14*	High	High	Moderate	High	High
13	Wait times/system access	7*	High	Moderate	Moderate	High	High
14	Behavioural symptoms	5*	High	High	Moderate	High	High
15	Infection (including antibiotics and vaccinations)	8*	High	High	Moderate	Moderate	High
16	Cognition	5*	High	High	Moderate	Moderate	High
17	Palliative care	5*	Moderate	Moderate	High	High	High
18	Other clinical	6*	Moderate	Moderate	Moderate	Moderate	Moderate
19	Mortality	1*	Moderate	Low	Low	Moderate	Moderate

Note: * Quality indicators did not progress to the next stage of assessment using analytic framework ^ Domains included in the current QI Program

● High (median scores 7-9)   ● Moderate (median scores 4-6)   ● Low (median scores 1-3)

4

Functions and Activities of Daily Living (ADLs)

Definition of this domain

Activities of daily living (ADLs) are categorised as basic and instrumental (IADLS). Basic ADLs include the fundamental skills needed to manage basic physical needs such as personal hygiene, dressing, toileting/continence, transferring or ambulating and eating. IADLS are more complex tasks such as managing finances, preparing meals and communication.

Why it is important to monitor this domain

Individuals accessing home care package services often report significant challenges with activities of daily living (ADL) and instrumental activities of daily living (IADL). Between 2003 and 2014, 56 per cent of new home care recipients reported ADL limitations with self-care, 51 per cent with walking, 17 per cent with mobility/movement, and 12 per cent with communication during their aged care eligibility assessments.[2] Almost all of these people also reported IADL limitations, most often with domestic assistance (95 per cent). A decline in physical function, which is marked by a decrease ability to perform basic ADLs, is often a reason for people to seek aged care services,[3] and is associated with falls, hospitalisations, disability, entry into residential aged care, and death.[4][5] While functional decline can be a normal part of the ageing process, it is exacerbated by chronic conditions, cognitive impairment, and other co-existing conditions. Appropriate care and support can slow or improve the rate of decline of physical functioning and ADL needs. Interventions that help minimise or prevent functional decline include physical activity, social interaction, physical therapy, occupational therapy, and speech language therapy.[6][7] Monitoring of function change can help trigger referrals to geriatric assessments to examine disease-related functional changes, potential onset of frailty, and examine if additional therapies are necessary. [8]

According to the Australian Aged Care Quality Standards (Standard 3, requirement 3(d)),[9] aged care services are expected to detect and provide support to address changes and deterioration of 'mental, cognitive or physical function, capacity or condition' of their consumers'.

Quality indicators for this domain

A total of 25 quality indicators for this domain were identified in the evidence review. The quality indicators measure a range of concepts including specific types of ADLs, improvement or decline and unexpected decline. Of the 25 quality indicators identified, 3 were considered to have insufficient information to assess against the assessment criteria. The remaining 22 quality indicators were assessed against the assessment criteria with results indicated in Table 3.

The 22 quality indicators were also assessed against the prioritisation matrix, with 22 assessed as having a high evidence base and being of high value to the QI Program (see Figure 3). The performance characteristics of these prioritised quality indicators is outlined in Table 16 in Appendix C.

---

2   Registry of Senior Australians (ROSA) 2019
3   Kadushin 2004
4   Deandrea et al 2010
5   O'Caoimh et al 2015
6   McLaren et al 2013
7   Tak et al 2013
8   Quinn et al 2011
9   Australian Government. Aged Care Quality and Safety Commission 2021
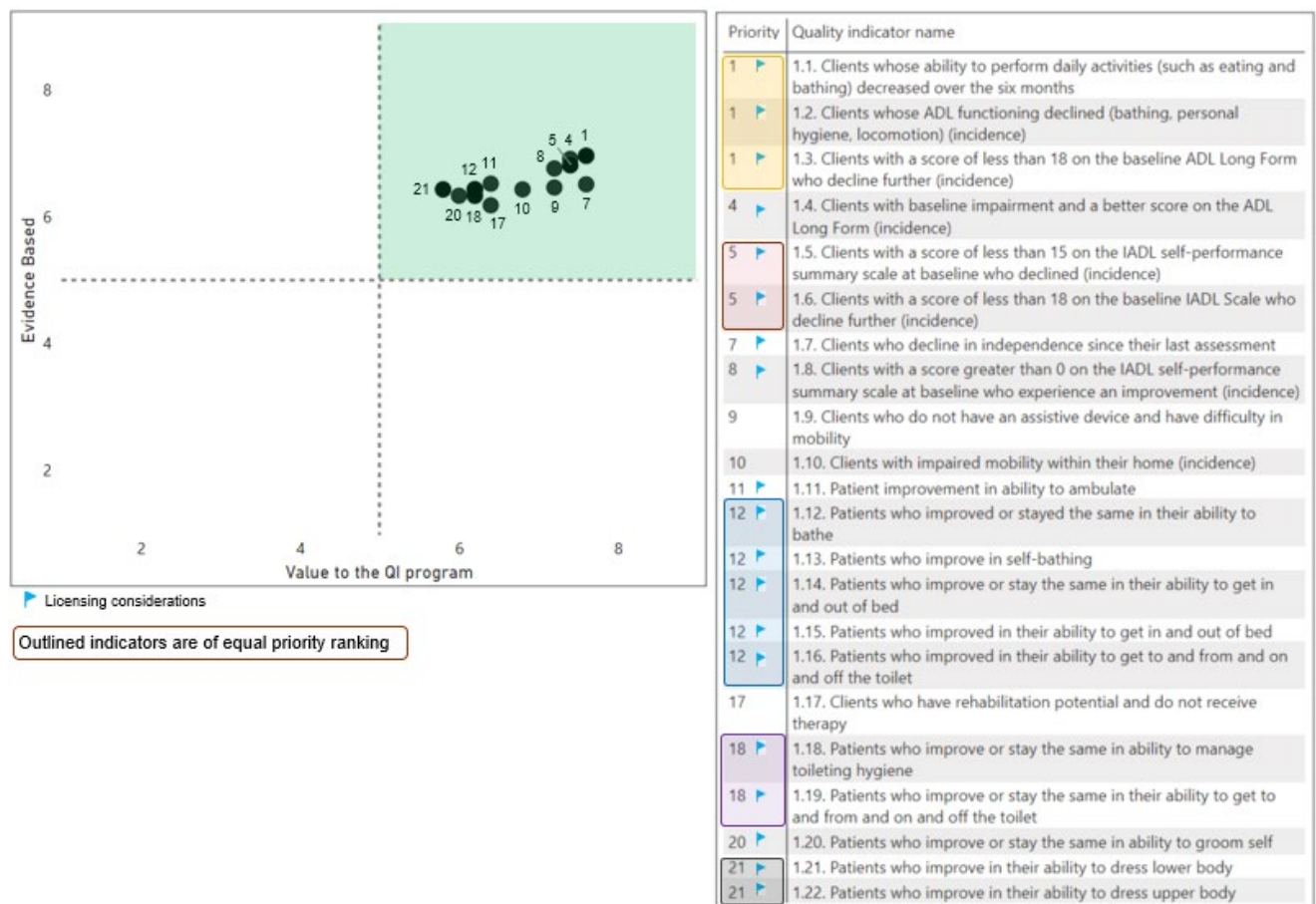
Functions and Activities of Daily Living (ADLs)

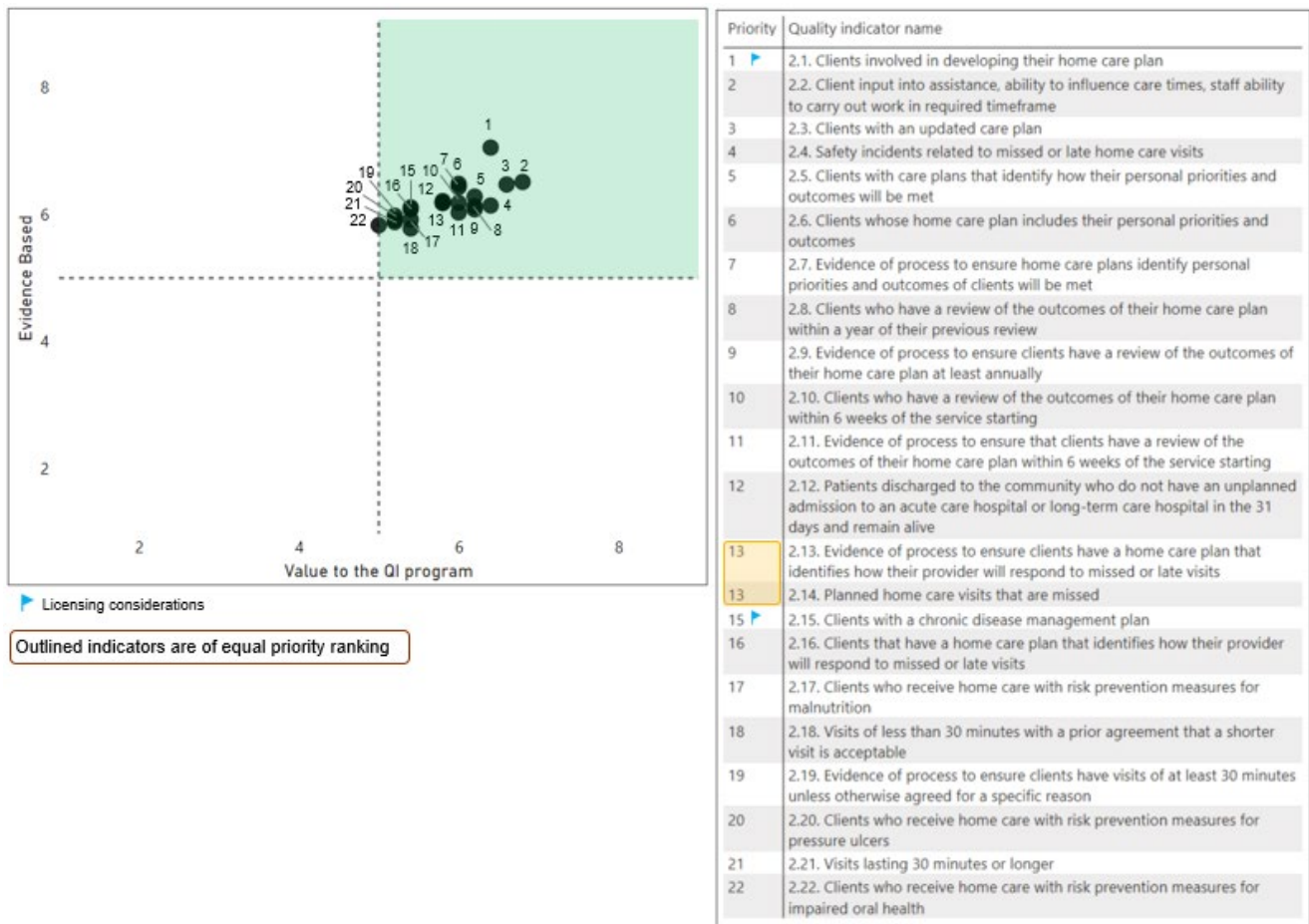| Unique ID	Quality indicators	Feasibility	Importance	Usability	Scientific acceptability	Attribution	Value to the QI Program
1.1	Clients whose ability to perform daily activities (such as eating and bathing) decreased over the six months	🟡	🟢	🟢	🟢	🟢	🟢
1.2	Clients whose ADL functioning declined (bathing, personal hygiene, locomotion) (incidence)	🟡	🟢	🟢	🟢	🟢	🟢
1.3	Clients with a score of less than 18 on the baseline ADL Long Form who decline further (incidence)	🟡	🟢	🟢	🟢	🟢	🟢
1.4	Clients with baseline impairment and a better score on the ADL Long Form (incidence)	🟡	🟢	🟢	🟢	🟢	🟢
1.5	Clients with a score of less than 15 on the IADL self-performance summary scale at baseline who declined (incidence)	🟡	🟢	🟢	🟢	🟢	🟢
1.6	Clients with a score of less than 18 on the baseline IADL Scale who decline further (incidence)	🟡	🟢	🟢	🟢	🟢	🟢
1.7	Clients who decline in independence since their last assessment	🟡	🟢	🟡	🟡	🟢	🟢
1.8	Clients with a score greater than 0 on the IADL self-performance summary scale at baseline who experience an improvement (incidence)	🟡	🟢	🟢	🟢	🟢	🟢
1.9	Clients who do not have an assistive device and have difficulty in mobility	🟡	🟢	🟢	🟡	🟢	🟢
1.10	Clients with impaired mobility within their home (incidence)	🟡	🟢	🟢	🟡	🟢	🟢
1.11	Patient improvement in ability to ambulate	🟡	🟢	🟢	🟢	🟢	🟢
1.12	Patient who improved or stayed the same in their ability to bathe	🟡	🟢	🟢	🟢	🟢	🟢
1.13	Patients who improve in self-bathing	🟡	🟢	🟢	🟢	🟢	🟢
1.14	Patients who improve or stay the same in their ability to get in and out of bed	🟡	🟢	🟢	🟢	🟢	🟢
1.15	Patients who improved in their ability to get in and out of bed*	🟡	🟢	🟢	🟢	🟢	🟢
1.16	Patients who improved in their ability to get to and from and on and off the toilet	🟡	🟢	🟢	🟢	🟢	🟢
1.17	Clients who have rehabilitation potential and do not receive therapy	🟡	🟢	🟡	🟡	🟡	🟡

Unique ID	Quality indicators	Feasibility	Importance	Usability	Scientific acceptability	Attribution	Value to the QI Program
1.18	Patients who improve or stay the same in ability to manage toileting hygiene	🟡	🟢	🟢	🟡	🟢	🟢
1.19	Patients who improve or stay the same in their ability to get to and from and on and off the toilet	🟡	🟢	🟢	🟡	🟢	🟢
1.20	Patients who improve or stay the same in ability to groom self	🟡	🟢	🟢	🟡	🟢	🟡
1.21	Patients who improve in their ability to dress lower body	🟡	🟢	🟢	🟢	🟢	🟡
1.22	Patients who improve in their ability to dress upper body	🟡	🟢	🟢	🟢	🟢	🟡

Note: Feasibility, scientific acceptability, importance, and usability assessment criteria drawn from the US NQF.

🟢 High (median scores 7-9)   🟡 Moderate (median scores 4-6)   🔴 Low (median scores 1-3)

Figure 3: Prioritisation of quality indicators for this domain against matrix

Priority	Quality indicator name
1 ▶	1.1. Clients whose ability to perform daily activities (such as eating and bathing) decreased over the six months
1 ▶	1.2. Clients whose ADL functioning declined (bathing, personal hygiene, locomotion) (incidence)
1 ▶	1.3. Clients with a score of less than 18 on the baseline ADL Long Form who decline further (incidence)
4 ▶	1.4. Clients with baseline impairment and a better score on the ADL Long Form (incidence)
5 ▶	1.5. Clients with a score of less than 15 on the IADL self-performance summary scale at baseline who declined (incidence)
5 ▶	1.6. Clients with a score of less than 18 on the baseline IADL Scale who decline further (incidence)
7 ▶	1.7. Clients who decline in independence since their last assessment
8 ▶	1.8. Clients with a score greater than 0 on the IADL self-performance summary scale at baseline who experience an improvement (incidence)
9	1.9. Clients who do not have an assistive device and have difficulty in mobility
10	1.10. Clients with impaired mobility within their home (incidence)
11 ▶	1.11. Patient improvement in ability to ambulate
12 ▶	1.12. Patients who improved or stayed the same in their ability to bathe
12 ▶	1.13. Patients who improve in self-bathing
12 ▶	1.14. Patients who improve or stay the same in their ability to get in and out of bed
12 ▶	1.15. Patients who improved in their ability to get in and out of bed
12 ▶	1.16. Patients who improved in their ability to get to and from and on and off the toilet
17	1.17. Clients who have rehabilitation potential and do not receive therapy
18 ▶	1.18. Patients who improve or stay the same in ability to manage toileting hygiene
18 ▶	1.19. Patients who improve or stay the same in their ability to get to and from and on and off the toilet
20 ▶	1.20. Patients who improve or stay the same in ability to groom self
21 ▶	1.21. Patients who improve in their ability to dress lower body
21 ▶	1.22. Patients who improve in their ability to dress upper body

▶ Licensing considerations

Outlined indicators are of equal priority ranking

Quality indicators pilot considerations

There are several considerations for the piloting of these quality indicators:

- Varied definitions for ADLs are used and advice will need to be sought on the most suitable definition for the Australian context. There is an opportunity for stakeholders to advise on quality indicators reflecting all aspects of ADLs or only some components (eg indicators regarding toileting, getting out of bed of mobility).

- Several quality indicators within this domain focus on similar ADL concepts, but measure either an improvement or decline in ADLs. There is an opportunity for stakeholder to advise on whether there is a preference to measure improvement or decline in ADLs.

- Many of the quality indicators in this domain require sequential and linked assessments of individual consumers conducted in a standardised manner. For example, any quality indicator that measures 'improvement' or 'decline' requires two observational points. Within a six-week pilot cycle, it may not be possible to conduct two observations in a way that is consistent with the definitions used in the quality indicators.

- Some of the indicators in this domain require the use of validated or standardised tools to assess ADLs. Licenses to use these tools may need to be gained for use in the pilot (eg interRAI derived indicators). There is an opportunity for stakeholders to advise on tools or methods (such as timed up and go assessment) currently used in in-home aged care that would be fit for purpose as a data collection tool. Alternatively, the use of the ADL measures built into the Australian National Aged Care Classification (AN-ACC) could be considered.

- There is an opportunity for stakeholders to advise on the ability of in-home aged care services to influence the quality indicators through their own actions. Some quality indicators identified for this domain may reflect minimal opportunity for improvements (overall decline), but others may reflect an ability for the provider to influence (eg improvements in ability to self-bathe if that is a specific focus of the in-home aged care support). Adding to this complexity is the ability of the pilot to capture if multiple in-home aged care services are provided to an individual consumer and how, if at all, these multiple services contribute to the outcome in these quality indicators.

- Some quality indicators identified in the evidence review in this domain may need to be considered for the pilot in light of different consumer populations within the in-home aged care context. For example, some quality indicators may only be appropriate for consumers receiving higher or more frequent levels of in-home support.

- Consideration is needed for the pilot as to the type of staff from in-home aged care services who will be required to collect data for these quality indicators. There is an opportunity for stakeholders to advise on the type of in-home aged care workers required for the collection of data on ADLs.

5

Service delivery and care plans

Definition of this domain

This domain encompasses services and other aspects of service delivery for individuals in their home care settings. For example, they include care planning, which is an assessment and plan conducted by the aged care provider to meet the needs of clients, or whether certain services identified in care plans are received.

Why it is important to monitor this domain

This domain includes a series of services that intend to measure whether in-home aged care is planned for, integrated with, and individualised for each aged care consumer. For example, care planning, risk assessment, and integrated care measures, examine whether individualised needs have been assessed and care plans are developed, that incorporates an understanding of the person's goals and preferences to ensure the delivery of person-centred safe and effective care.

According to the Australian Aged Care Quality Standards (Standard 2, requirement 3(a)),[10] aged care providers are expected to demonstrate ongoing assessment and planning with their consumers, which addresses consumers' needs, informs their care, coordinates their care with other organisations, is reviewed regularly when circumstances change, and are effectively communicated and documented.

Quality indicators for this domain

A total of 64 quality indicators for this domain were identified in the evidence review. Of these, 42 quality indicators were considered to have insufficient information to assess against the assessment criteria. The remaining 22 quality indicators were assessed against the assessment criteria with results indicated in Table 4.

The 22 quality indicators were also assessed against the prioritisation matrix with all assessed as having a high evidence base and being of high value to the QI Program (see Figure 4). The performance characteristics of these prioritised quality indicators is outlined in Table 17 in Appendix C.
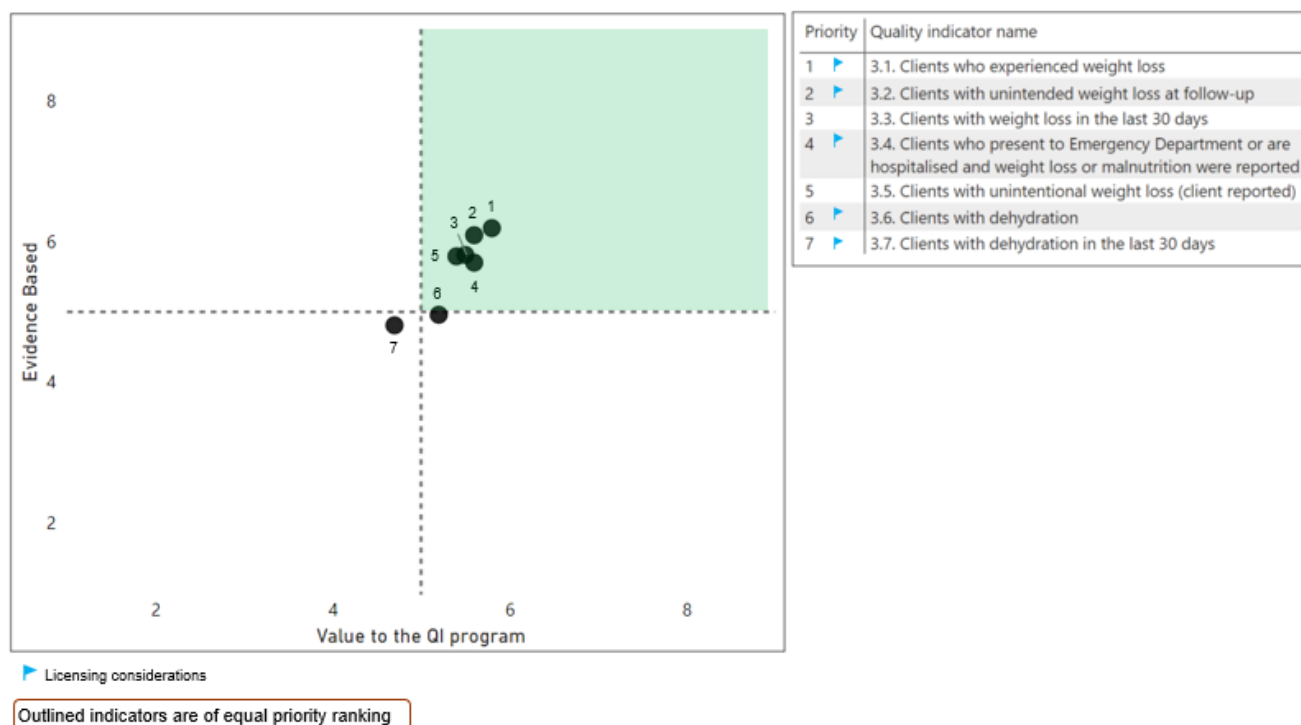
Table 4: Quality indicator assessment results

Unique ID	Quality indicators	Feasibility	Importance	Usability	Scientific acceptability	Attribution	Value to the QI Program
2.1	Clients involved in developing their home care plan	🟢	🟢	🟢	🟡	🟢	🟡
2.2	Client input into assistance, ability to influence care times, staff ability to carry out work in required timeframe	🟡	🟡	🟡	🟡	🟢	🟢
2.3	Clients with an updated care plan	🟡	🟡	🟡	🟡	🟢	🟡
2.4	Safety incidents related to missed or late home care visits	🟡	🟡	🟡	🟡	🟢	🟡
2.5	Clients with care plans that identify how their personal priorities and outcomes will be met	🟡	🟡	🟡	🟡	🟢	🟡
2.6	Clients whose home care plan includes their personal priorities and outcomes	🟡	🟡	🟡	🟡	🟢	🟡

---

[10] Australian Government. Aged Care Quality and Safety Commission 2021

Service delivery and care plans

Unique ID	Quality indicators	Feasibility	Importance	Usability	Scientific acceptability	Attribution	Value to the QI Program
2.7	Evidence of process to ensure home care plans identify personal priorities and outcomes of clients will be met	Moderate	Moderate	Moderate	Moderate	High	Moderate
2.8	Clients who have a review of the outcomes of their home care plan within a year of their previous review	Moderate	Moderate	Moderate	Moderate	High	Moderate
2.9	Evidence of process to ensure clients have a review of the outcomes of their home care plan at least annually	Moderate	Moderate	Moderate	Moderate	High	Moderate
2.10	Clients who have a review of the outcomes of their home care plan within six-weeks of the service starting	Moderate	Moderate	Moderate	Moderate	High	Moderate
2.11	Evidence of process to ensure that clients have a review of the outcomes of their home care plan within six-weeks of the service starting	Moderate	Moderate	Moderate	Moderate	High	Moderate
2.12	Patients discharged to the community who do not have an unplanned admission to an acute care hospital or long-term care hospital in the 31 days and remain alive	High	Moderate	Moderate	High	Moderate	Moderate
2.13	Evidence of process to ensure clients have a home care plan that identifies how their provider will respond to missed or late visits	Moderate	Moderate	Moderate	Moderate	High	Moderate
2.14	Planned home care visits that are missed	Moderate	Moderate	Moderate	Moderate	High	Moderate
2.15	Clients with a chronic disease management plan	High	Moderate	Moderate	Moderate	Moderate	Moderate
2.16	Clients that have a home care plan that identifies how their provider will respond to missed or late visits	Moderate	Moderate	Moderate	Moderate	High	Moderate
2.17	Clients who receive home care with risk prevention measures for malnutrition	Moderate	Moderate	Moderate	Moderate	High	Moderate
2.18	Visits of less than 30 minutes with a prior agreement that a shorter visit is acceptable	Moderate	Moderate	Moderate	Moderate	High	Moderate
2.19	Evidence of process to ensure clients have visits of at least 30 minutes unless otherwise agreed for a specific reason	Moderate	Moderate	Moderate	Moderate	High	Moderate
2.20	Clients who receive home care with risk prevention measures for pressure ulcers	Moderate	Moderate	Moderate	Moderate	High	Moderate
2.21	Visits lasting 30 minutes or longer	Moderate	Moderate	Moderate	Moderate	High	Moderate
2.22	Clients who receive home care with risk prevention measures for impaired oral health	Moderate	Moderate	Moderate	Moderate	High	Moderate

Note: Feasibility, scientific acceptability, importance, and usability assessment criteria drawn from the US NQF.

● High (median scores 7-9)   ● Moderate (median scores 4-6)   ● Low (median scores 1-3)

Figure 4: Prioritisation of quality indicators for this domain against matrix

Licensing considerations

Outlined indicators are of equal priority ranking

Priority	Quality indicator name
1	2.1. Clients involved in developing their home care plan
2	2.2. Client input into assistance, ability to influence care times, staff ability to carry out work in required timeframe
3	2.3. Clients with an updated care plan
4	2.4. Safety incidents related to missed or late home care visits
5	2.5. Clients with care plans that identify how their personal priorities and outcomes will be met
6	2.6. Clients whose home care plan includes their personal priorities and outcomes
7	2.7. Evidence of process to ensure home care plans identify personal priorities and outcomes of clients will be met
8	2.8. Clients who have a review of the outcomes of their home care plan within a year of their previous review
9	2.9. Evidence of process to ensure clients have a review of the outcomes of their home care plan at least annually
10	2.10. Clients who have a review of the outcomes of their home care plan within 6 weeks of the service starting
11	2.11. Evidence of process to ensure that clients have a review of the outcomes of their home care plan within 6 weeks of the service starting
12	2.12. Patients discharged to the community who do not have an unplanned admission to an acute care hospital or long-term care hospital in the 31 days and remain alive
13	2.13. Evidence of process to ensure clients have a home care plan that identifies how their provider will respond to missed or late visits
13	2.14. Planned home care visits that are missed
15	2.15. Clients with a chronic disease management plan
16	2.16. Clients that have a home care plan that identifies how their provider will respond to missed or late visits
17	2.17. Clients who receive home care with risk prevention measures for malnutrition
18	2.18. Visits of less than 30 minutes with a prior agreement that a shorter visit is acceptable
19	2.19. Evidence of process to ensure clients have visits of at least 30 minutes unless otherwise agreed for a specific reason
20	2.20. Clients who receive home care with risk prevention measures for pressure ulcers
21	2.21. Visits lasting 30 minutes or longer
22	2.22. Clients who receive home care with risk prevention measures for impaired oral health

Quality indicators pilot considerations

There are several issues that need to be considered in using the indicators in this domain for the pilot:

- Many of the quality indicators identified in the review are process indicators that reflect service delivery aspects entirely within the control of the in-home aged care provider. This means that many of these quality indicators are not subject to the challenges of attribution, however this could be impacted by the program design of a new In-Home Care Program.

- There are a wide range of concepts of service delivery identified in the quality indicators in the review, ranging from risk planning, care planning through to time of service. Most quality indicators (regardless of measurement focus) did not score highly in terms of scientific properties. Consideration needs to be given to the balance between using these quality indicators in a pilot where there are sub-optimal scientific properties but highly amenable to supporting quality improvement and consumer choice within an expanded in-home QI Program.

- Some quality indicators identified in the evidence review in this domain may need to be considered for the pilot in light of different consumer populations within the in-home aged care context. For example, some quality indicators may only be appropriate for consumers receiving higher or more frequent levels of in-home support as the problem might only occur in a small proportion of the population served.

- Consideration is needed for the pilot as to the type of staff from the in-home aged care service who are appropriate to collect data for these quality indicators. There is an opportunity for stakeholders to advise on the type of in-home aged care workers who are appropriate to collect data directly from clients (for those indicators that require it).

- Quality indicators that quantify the amount of time spent in a home care episode (eg 30 minutes or less) may inadvertently drive poorer service practice when applied to the Australian context. Definitions for optimal time amounts for home care services in Australia to achieve quality outcomes are unavailable and without this evidence, it may be premature to include quality indicators that define this within the pilot.

Service delivery and care plans

- Some of the higher ranked quality indicators identified for this domain relate to health care practices (such as the quality indicator of clients with chronic disease management plans) that are likely to be within the direct control of the health care system rather than able to be influenced by in-home aged care services. There is an opportunity for stakeholders to advise on which quality indicators in this domain are within the direct influence of the service.

6

Weight loss/malnutrition/ dehydration
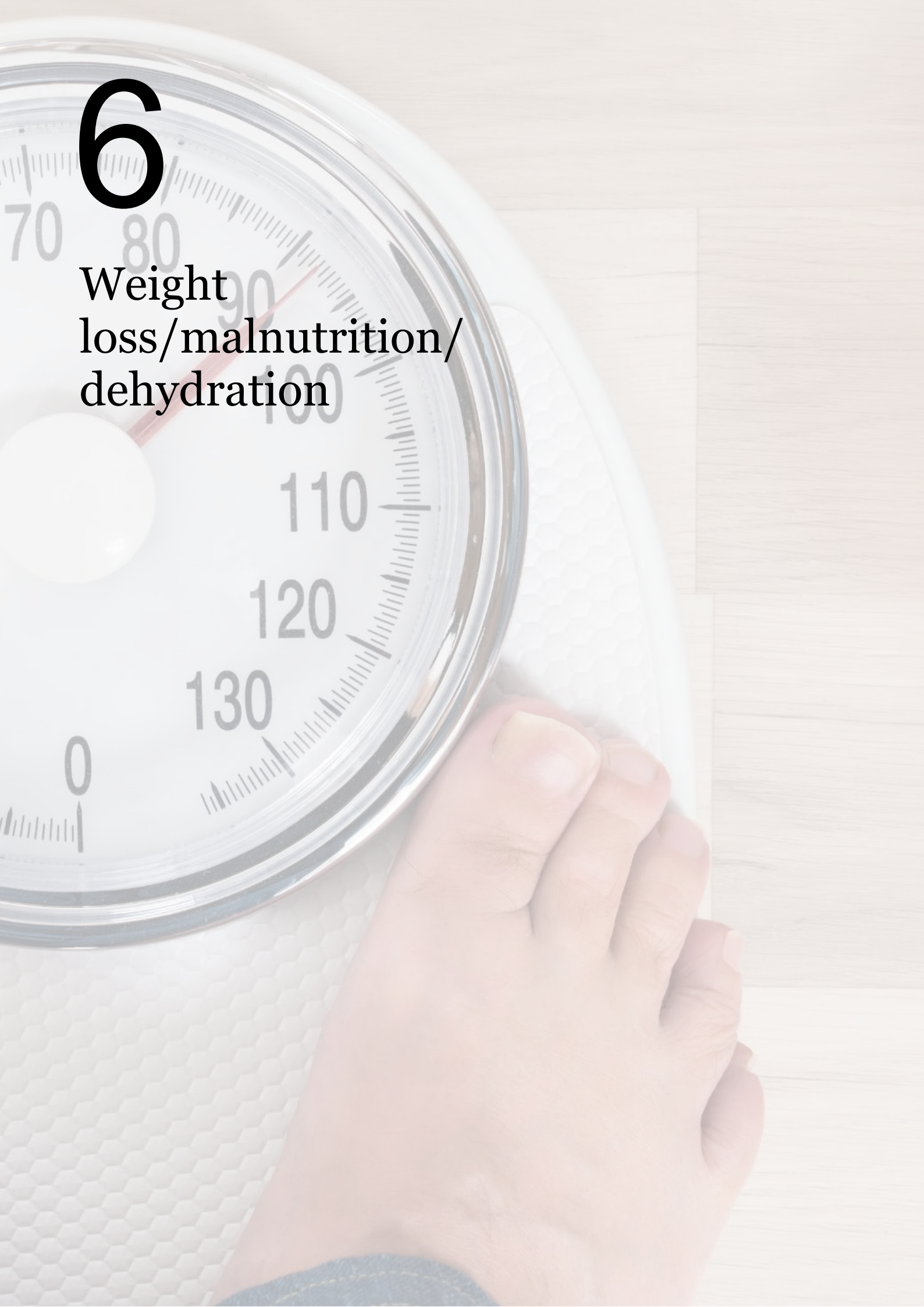
Definition of this domain

Unplanned weight loss is the result of deficiency in a person's dietary intake relative to their needs and may be a symptom and consequence of disease. Malnutrition is the lack of proper nutrition and can be caused by not having enough to eat, not eating enough of the right things, or not being able to use the food and nutrition that one does eat. Dehydration occurs when you use or lose more fluid than you take into your body, and your body does not have enough fluids to carry out its normal functions.

Why it is important to monitor this domain

Unintended weight loss and malnutrition has been reported in up to 30 per cent of older adults[11] [12] and is associated with poor health outcomes, reduced quality of life and related healthcare costs.[13] [14] Unplanned weight loss can be a clinical symptom and consequence of poor health or presence of disease, and is one of the best indications of poor nutrition in the older population.[15] Unplanned weight loss and malnutrition are associated with higher mortality and morbidity, including increased risk of falls and fracture, pressure injury development, hospitalisations, infections, poor recovery from disease or surgery, reduced physical and mental function, and lower quality of life.[16] Dehydration affects up to 30 per cent of older people and can be associated with serious health issues and reduced quality of life. Poor health outcomes associated with dehydration include higher risk of falls and fractures, delirium, urinary tract infections, renal failure, prolonged recovery from illness or surgery, and mortality.[17] [18]

While malnutrition is a geriatric syndrome, its causes are not well understood and is not just the result of age-related changes. The presence of chronic conditions such as cancer or dementia, medication-related adverse effects (ie altered taste or smell, anorexia, nausea, and vomiting) and polypharmacy are known to result in weight loss and malnutrition.[19] [20] In addition, other non-clinical factors are also known to play a role in malnutrition, including quality of meals provided, dining environment, financial constraints, and assistance provided by staff.[21]

Quality indicators for this domain

A total of 7 quality indicators for this domain were identified in the evidence review and all were considered to have sufficient information to assess against the assessment criteria with results indicated in Table 5.

The 7 quality indicators were also assessed against the prioritisation matrix with all assessed as having a high evidence base and being of high value to the QI Program (see Figure 5) Figure 5. The performance characteristics of these prioritised quality indicators is outlined in Table 18 in Appendix C.

[11] Alibhai et al 2005
[12] Banks et al 2007
[13] Rasheed & Woods 2013
[14] Volkert et al 2019
[15] Dorner 2010
[16] Volkert et al 2019
[17] Wotton et al 2008
[18] Miller 2015
[19] Volkert et al 2019
[20] Gaddey & Holder 2014
[21] Volkert et al 2019

Table 5: Quality indicator assessment results

Unique ID	Quality indicators	Feasibility	Importance	Usability	Scientific acceptability	Attribution	Value to the QI Program
3.1	Clients who experienced weight loss	🟡	🟡	🟡	🟢	🟡	🟡
3.2	Clients with unintended weight loss at follow-up	🟡	🟡	🟡	🟢	🟡	🟡
3.3	Clients with weight loss in the last 30 days	🟡	🟡	🟢	🟡	🟡	🟡
3.4	Clients who present to Emergency Department or are hospitalised and weight loss or malnutrition were reported	🟡	🟡	🟡	🟡	🟡	🟡
3.5	Clients with unintentional weight loss (client reported)	🟡	🟡	🟡	🟡	🟡	🟡
3.6	Clients with dehydration	🔴	🟡	🟡	🟡	🟡	🟡
3.7	Clients with dehydration in the last 30 days	🔴	🟡	🟡	🟡	🟡	🟡

Note: Feasibility, scientific acceptability, importance, and usability assessment criteria drawn from the US NQF.

🟢 High (median scores 7-9)   🟡 Moderate (median scores 4-6)   🔴 Low (median scores 1-3)

Figure 5: Prioritisation of quality indicators for this domain against matrix.

Priority	Quality indicator name
1 ▶	3.1. Clients who experienced weight loss
2 ▶	3.2. Clients with unintended weight loss at follow-up
3	3.3. Clients with weight loss in the last 30 days
4 ▶	3.4. Clients who present to Emergency Department or are hospitalised and weight loss or malnutrition were reported
5	3.5. Clients with unintentional weight loss (client reported)
6 ▶	3.6. Clients with dehydration
7 ▶	3.7. Clients with dehydration in the last 30 days

▶ Licensing considerations

Outlined indicators are of equal priority ranking

Quality indicators pilot considerations

There are several issues that need to be considered in using the indicators in this domain for the pilot:

- Many of the quality indicators in this domain require sequential and linked assessments of individual consumers conducted in a standardised manner. For example, any quality indicator that measure 'weight loss' requires two observational points. Within a six-week pilot cycle, it may not be possible to conduct two observations in a way that is consistent with the definitions used in the quality indicators.

- The weight loss quality indicator measures currently used in the QI Program for residential aged care could be considered for the in-home aged care pilot. They align with some quality indicators identified in this review.

- There are several challenges associated with data collection of weight loss, malnutrition, and dehydration quality indicators within an in-home aged care pilot. These challenges relate to ensuring consistency and accuracy of data collection (eg which scales are used, time of day weight is measured). For many quality indicators, a point prevalence approach is used (how many in-home aged care consumers have unplanned weight loss at a point in time). These types of quality indicators may be possible to collect for in-home aged care on a single day or week for the pilot but only for the consumers who receive services during the pilot period and who have a previous weight recorded. To overcome this, the pilot could use a 'virtual' point prevalence approach. For example, all clients of the service are assessed every 6 months from admission to their service, and the prevalence is calculated from the most recent assessment (which might be more than 6 months old). There is an opportunity for stakeholders to advise on these issues of 'how' to collect information for all, or a subset of, consumers.

- Some quality indicators identified in the evidence review in this domain may need to be considered for the pilot in light of different consumer populations within the in-home aged care context. For example, some indicators may only be appropriate for consumers receiving services that have a direct role in nutrition and hydration (eg meal services).

- Consideration is needed for the pilot as to the type of staff from the in-home aged care service who are appropriate to collect data for these quality indicators. There is an opportunity for stakeholders to advise the type of in-home aged care workers who are appropriate to collect data directly from clients (for those quality indicators that require it).

7

Falls and major injuries

Definition of this domain

A fall is an event that results in a person coming to rest inadvertently on the ground or floor or other lower level. A fall resulting in major injury is a fall that meets this definition and results in one or more serious injuries like bone fractures, joint dislocations, or closed head injuries.

Why it is important to monitor this domain

Falls in older people are a public health priority due to their high prevalence, related injuries, increased risk of mortality and reduced quality of life.[22] [23] In Australia, falls are the leading cause of hospitalised injury (41 per cent) and injury-related deaths (37 per cent of all deaths).[24] It is estimated that the total healthcare costs associated with fall-related injuries in the older population in Australia in 2021 will be $790 million.[25] A third of older people living in the community fall at least once every year.[26]

While there are many factors that contribute to falls, some can be prevented. Intrinsic fall risk factors (eg mobility problems, cognitive impairment, frailty) and extrinsic fall risk factors (eg environmental factors such as lighting or flooring, organisation factors (eg staff)) can be targeted through interventions.[27] For example, medication use is one of the most modifiable risk factors for falls.[28] Several medication classes are associated with higher risk of falls can and should be optimised in older individuals, for example, antidepressants, antipsychotics, hypnotics and benzodiazepines.[29]

Fractures, especially hip fractures, are a common injury associated with a fall. Approximately a third of fall-related injuries in community based older people result in fractures.[30] In 2015-16 in Australia, 93 per cent of hip fractures were the result of a fall-related injury, and 87 per cent of falls resulted in minimal trauma (low-impact).[31] Hip fracture is associated with decreased mobility and quality of life, admission to residential aged care, and significant higher risk of death.[32] [33] Approximately 25 per cent of people with a hip fracture die within one year of the fracture and over 50 per cent of people will have some degree of functional impairment after a year.[34] [35]

Quality indicators for this domain

A total of 14 quality indicators for this domain were identified in the evidence review and 3 were considered to have insufficient information to assess against the assessment criteria. Eleven quality indicators were assessed against the assessment criteria with results indicated in Table 6.

The 11 quality indicators were also assessed against the prioritisation matrix with 11 assessed as having a high evidence base and being of high value to the QI Program (see Figure 6). The performance characteristics of these prioritised quality indicators is outlined in Table 19 in Appendix C. Performance characteristics of non-prioritised quality indicators in this domain are available in the evidence review assessment log and are not presented here for brevity.

---

[22] Bergen et al 2014
[23] Hartholt et al 2011
[24] Australian Institute of Health and Welfare 2018
[25] Moller 2010
[26] Deandrea et al 2013
[27] Deandrea et al 2013
[28] Woolcott et al 2009
[29] Woolcott et al 2009
[30] Verma et al 2016
[31] Australian Institute of Health and Welfare 2018
[32] Bentler et al 2009
[33] Pasco et al 2005
[34] Bentler et al 2009
[35] Pasco et al 2005

Table 6: Quality indicator assessment results

Unique ID	Quality indicators	Feasibility	Importance	Usability	Scientific acceptability	Attribution	Value to the QI Program
4.1	Clients who fell	Moderate	High	High	High	Moderate	High
4.2	Clients who experienced one or more falls in the last 90 days	Moderate	High	High	High	Moderate	High
4.3	Clients experiencing one or more falls requiring medical attention	High	High	High	Moderate	Moderate	High
4.4	Clients with new fall-related injuries and breaks	Moderate	High	High	High	Moderate	High
4.5	Clients experiencing at least one fall-related fracture	High	High	Moderate	Moderate	Moderate	High
4.6	Clients with new fall-related injuries (fractures, second- or third-degree burns, unexplained injuries)	Moderate	High	High	High	Moderate	High
4.7	Patients experiencing one or more falls with major injury	High	High	High	Moderate	Moderate	High
4.8	Clients who fall with trauma (last 30 days)	Moderate	High	High	Moderate	Moderate	Moderate
4.9	Clients with an incident of falling	High	High	Moderate	Moderate	Moderate	Moderate
4.10	Hip fractures among people 65 years and older (3 year average)	High	High	Moderate	Moderate	Moderate	Moderate
4.11	Clients with fall injuries admitted to hospital among people 80 years and older (3 year average)	High	High	Moderate	Moderate	Moderate	Moderate

Note: Feasibility, scientific acceptability, importance, and usability assessment criteria drawn from the US NQF.

● High (median scores 7-9)   ● Moderate (median scores 4-6)   ● Low (median scores 1-3)

Figure 6: Prioritisation of quality indicators for this domain against matrix.
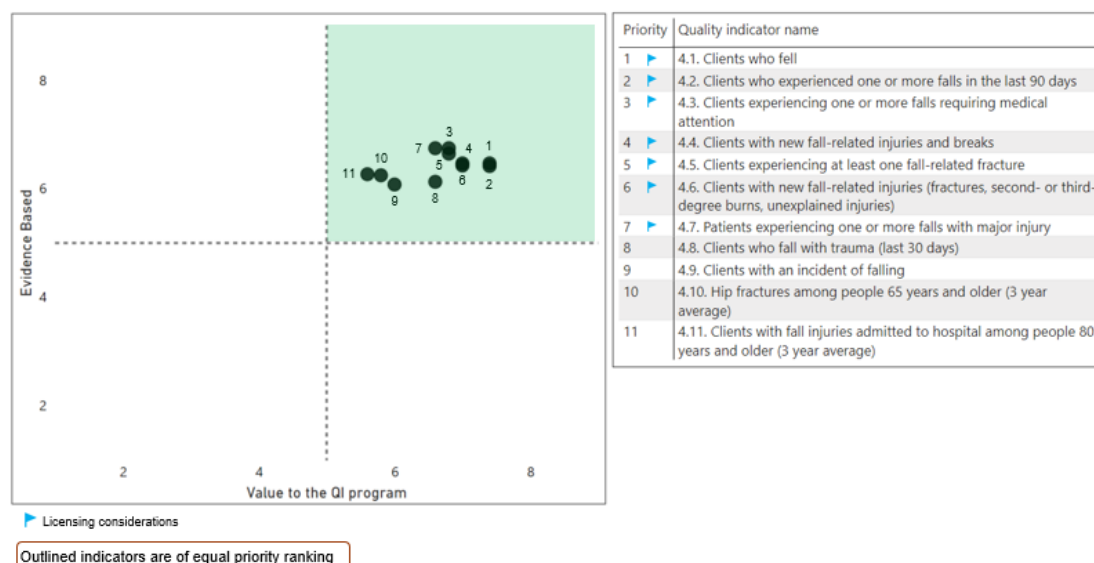
Priority	Quality indicator name
1 ►	4.1. Clients who fell
2 ►	4.2. Clients who experienced one or more falls in the last 90 days
3 ►	4.3. Clients experiencing one or more falls requiring medical attention
4 ►	4.4. Clients with new fall-related injuries and breaks
5 ►	4.5. Clients experiencing at least one fall-related fracture
6 ►	4.6. Clients with new fall-related injuries (fractures, second- or third-degree burns, unexplained injuries)
7 ►	4.7. Patients experiencing one or more falls with major injury
8	4.8. Clients who fall with trauma (last 30 days)
9	4.9. Clients with an incident of falling
10	4.10. Hip fractures among people 65 years and older (3 year average)
11	4.11. Clients with fall injuries admitted to hospital among people 80 years and older (3 year average)

► Licensing considerations

Outlined indicators are of equal priority ranking

Quality indicators pilot considerations

There are several issues that need to be considered in using the indicators in this domain for the pilot:

- Some quality indicators identified in the evidence review in this domain may need to be considered for the pilot in light of different consumer populations within the in-home aged care context. For example, some indicators may only be appropriate for consumers receiving higher or more frequent levels of in-home support (for example the higher levels of home care package or those receiving specific falls prevention services) as the problem might only occur in a small proportion of the population served.

- Consideration is needed for the pilot as to the type of staff from the in-home aged care service who are appropriate to collect data for these quality indicators. There is an opportunity for stakeholders to advise the type of in-home aged care workers are appropriate to collect data on falls.

- Considerations are needed as to the ability of in-home aged care services to influence the quality indicators through their own actions. Some quality indicators identified for this domain may reflect minimal opportunity for improvements if the fall is unrelated to the episode of care (eg proportion of clients of the service who fell at any time). Adding to this complexity is the ability of the pilot to capture if multiple in-home aged care services are provided to an individual consumer and how, if at all, these multiple services contribute to the outcome in these quality indicators. There is an opportunity for stakeholders to advise the quality indicators in this domain are within the direct influence of the service.

- There are several practical issues in piloting some of the quality indicators. For example, a consumer of an in-home aged care service falls and experiences a major injury requiring hospitalisation. In this case, the consumer may spend considerable time within hospital and be removed from the in-home aged care client listing for service. There is an opportunity for stakeholders to advise on these practical issues.

- The falls quality indicator measures currently used in the QI Program for residential aged care could be considered for the in-home aged care pilot. They align with many quality indicator concepts identified in this evidence review.

8
Pressure injuries/skin integrity

Definition of domain

Pressure injuries are a localised injury to the skin and/or the underlying tissue that usually occurs over a bony prominence that arises from pressure, friction, and shear.[36]

Why it is important to monitor this domain

The older population are at higher risk of developing pressure injuries, as a consequence of skin and soft-tissue changes associated with ageing as well as other age-related impairments such as malnutrition, immobility, incontinence, impaired cognitive status and frailty.[37] Most pressure injuries occur in people over the age of 70 and when they are ill and experience mobility issues.[38] At least 4 per cent of home care recipients had a pressure injury in 2016.[39] Pressure injuries are associated with increased pain, discomfort, immobility and mortality in addition to decreased quality of life.[40] [41] However, they are considered to be largely preventable and caregivers may be able to play a role in preventing them.[42] [43]

The QI Program for residential aged care includes quality indicators for pressure injuries. The two quality indicators consider the proportion of care recipients at the service with one or more pressure injuries, and the proportion of care recipients at the service with one or more pressure injuries reported against each of the 6 pressure injury stages documented in the ICD-10-Australian Modified (AM) pressure injury classification system (outlined in the Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline 2019).

Quality indicators for this domain

A total of 6 quality indicators for this domain were identified in the evidence review and one was considered to have insufficient information to assess against the assessment criteria. Five quality indicators were assessed against the assessment criteria with results indicated in Table 7.

The 5 quality indicators were also assessed against the prioritisation matrix with all assessed as having a high evidence base and being of high value to the QI Program (see Figure 7). The performance characteristics of these prioritised quality indicators is outlined in Table 20 in Appendix C. Of note, the current residential QI Program includes indicators for pressure injuries (some of which are similar in concept to those that were identified in use in other jurisdictions within home care services).

Table 7: Quality indicator assessment results

Unique ID	Quality indicators	Feasibility	Importance	Usability	Scientific acceptability	Attribution	Value to the QI Program
5.1	Percentage of quality episodes in which the patient has one or more Stage 2-4 pressure ulcers, or an unstageable ulcer/injury, present at discharge that are new or worsened since the beginning of the quality episode	🟡	🟢	🟢	🟢	🟡	🟢

---

[36] European Pressure Ulcer Advisory Panel and National Pressure Ulcer Advisory Panel (NPUAP) 2009
[37] European Pressure Ulcer Advisory Panel and National Pressure Ulcer Advisory Panel (NPUAP) 2019
[38] Edsberg et al 2014
[39] Caughey et al 2021
[40] Gorecki et al 2009
[41] Song et al 2019
[42] European Pressure Ulcer Advisory Panel and National Pressure Ulcer Advisory Panel (NPUAP) 2019
[43] Rafiei et al 2021

Unique ID	Quality indicators	Feasibility	Importance	Usability	Scientific acceptability	Attribution	Value to the QI Program
5.2	Proportion of HCP episodes where clients had an emergency department presentation or hospitalisation where pressure injury was reported	🟡	🟡	🟡	🟡	🟡	🟡
5.3	Pressure ulcer or skin tear in the last 30 days	🟡	🟡	🟡	🟡	🟡	🟡
5.4	Incidence of clients with a skin ulcer	🟡	🟡	🟡	🟡	🟡	🟡
5.5	Proportion of clients with a pressure ulcer	🟡	🟡	🟡	🟡	🟡	🟡

Note: Feasibility, scientific acceptability, importance, and usability assessment criteria drawn from the US NQF.

🟢 High (median scores 7-9)　　🟡 Moderate (median scores 4-6)　　🔴 Low (median scores 1-3)

Figure 7: Prioritisation of quality indicators for this domain against matrix.
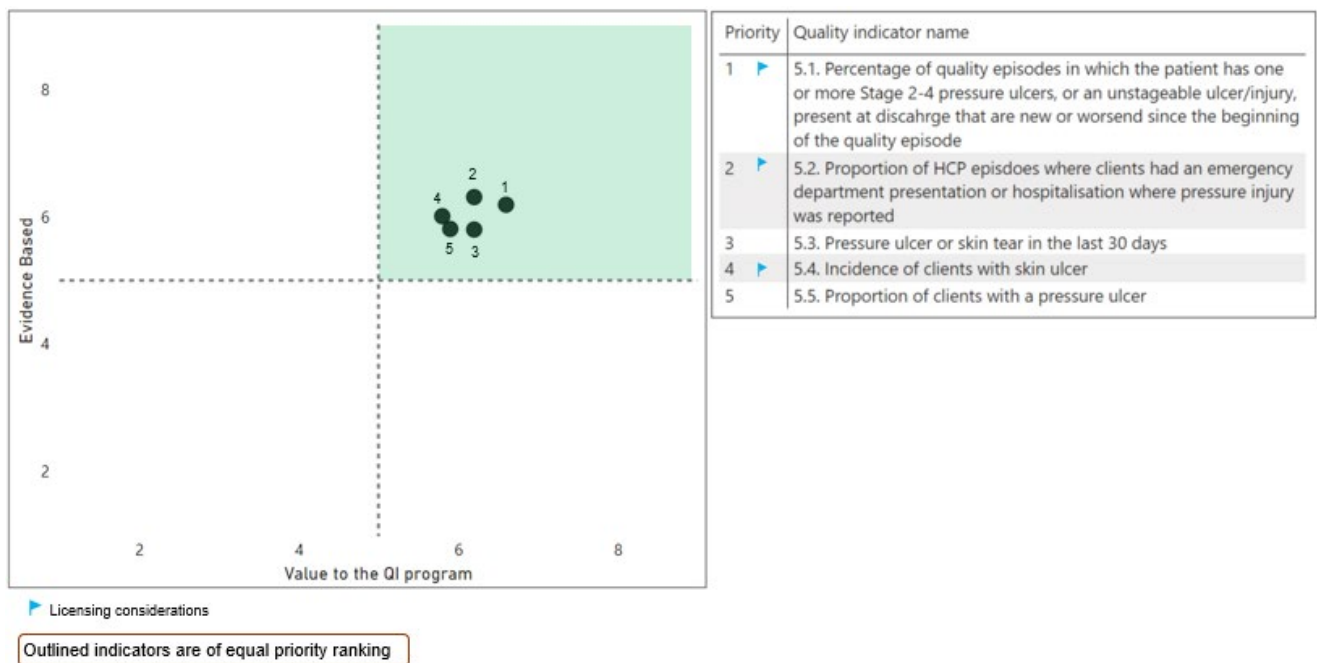
Priority		Quality indicator name
1	▶	5.1. Percentage of quality episodes in which the patient has one or more Stage 2-4 pressure ulcers, or an unstageable ulcer/injury, present at discahrge that are new or worsend since the beginning of the quality episode
2	▶	5.2. Proportion of HCP episdoes where clients had an emergency department presentation or hospitalisation where pressure injury was reported
3		5.3. Pressure ulcer or skin tear in the last 30 days
4	▶	5.4. Incidence of clients with skin ulcer
5		5.5. Proportion of clients with a pressure ulcer

▶ Licensing considerations

Outlined indicators are of equal priority ranking

Quality indicators pilot considerations

There are several issues that need to be considered in using the indicators in this domain for the pilot:

- Some quality indicators identified in the evidence review in this domain may need to be considered for the pilot in light of different consumer populations within the in-home aged care context. For example, some quality indicators may only be appropriate for consumers receiving higher or more frequent levels of in-home support (for example the higher levels of home care package or those receiving wound care or personal care services) as the problem might only occur in a small proportion of the population served. There is an opportunity for stakeholders to advise on the appropriateness of quality indicators in this domain for different sub-groups of in-home aged care consumers.

- Consideration is needed for the pilot as to the type of staff from the in-home aged care service who are appropriate to collect data for these quality indicators. There is an opportunity for stakeholders to advise on the type of in-home aged care workers who are appropriate to collect data on pressure injuries. It may not be possible within the time frames of the pilot to train non-nursing staff to accurately identify and stage pressure injuries for in-home aged care consumers.

- Considerations are needed as to the ability of in-home aged care services to influence the quality indicators through their own actions. Quality indicators identified for this domain may reflect minimal opportunity for improvements if the pressure injury is unrelated to the episode of care (eg for non-wound care services). There is an opportunity for stakeholders to advise which quality indicators in this domain are within the direct influence of the service.

- The pressure injuries quality indicator measures currently used in the QI Program for residential aged care could be considered for the in-home aged care pilot. They align with many of the quality indicator concepts identified in this evidence review.

9

Workforce

Definition of domain

The aged care industry is diverse and is made up predominantly of small to medium enterprises spread across community, home, and residential aged care settings[44]. The industry relies on a diverse workforce that is diverse as the settings and consumers it services – from carers and personal support workers through to specialised clinicians.

Why it is important to monitor this domain

Aged care is one of Australia's largest service industries, that in 2020 included 434,000 paid workers, with the majority (76 per cent) in direct care roles. This includes 123,048 direct care staff employed in the home care setting (home care packages and home support services).[45] Findings from the Royal Commission into Aged Care Quality and Safety have reported Australia's aged care system is understaffed and undertrained. Inadequate staffing levels, skill mix and appropriate trainings are principal causes of substandard care in the current system.[46] Staffing of aged care is currently not captured at the national level but is monitored through the National Aged Care Workforce Census and Survey conducted every 4 years by the National Institute of Labour Studies.[47]

Quality indicators for this domain

A total of 21 quality indicators for this domain were identified in the evidence review and 13 were considered to have insufficient information to assess against the assessment criteria. Eight quality indicators were assessed against the assessment criteria with results indicated in Table 8.

The 8 quality indicators were also assessed against the prioritisation matrix with all assessed as having a high evidence base and being of high value to the QI Program (see Figure 8). The performance characteristics of these prioritised quality indicators is outlined in Table 21 in Appendix C.

Table 8: Quality indicator assessment results

Unique ID	Quality indicators	Feasibility	Importance	Usability	Scientific acceptability	Attribution	Value to the QI Program
6.1	Responsiveness of staff, safety living at home, and confidence in staff	🟡	🟡	🟡	🟡	🟢	🟢
6.2	Number of home care workers providing care to an older person	🟡	🟡	🟡	🟡	🟢	🟢
6.3	Staff helping a client in 14-day period (average)	🟡	🟡	🟡	🟡	🟢	🟡
6.4	Staff retention	🟡	🟡	🟡	🟡	🟢	🟡
6.5	Visits for each client per home care worker	🟡	🟡	🟡	🟡	🟢	🟡
6.6	Evidence of processes to ensure consistent team of workers for each client	🟡	🟡	🟡	🟡	🟢	🟡
6.7	Evidence of supervision discussions with home care workers (every 3 months)	🟡	🟡	🟡	🟡	🟢	🟡

---

[44] Australian Government, 2018
[45] Australian Government Department of Health 2021
[46] Royal Commission into Aged Care Quality and Safety 2021
[47] Australian Government Department of Health 2021

Unique ID	Quality indicators	Feasibility	Importance	Usability	Scientific acceptability	Attribution	Value to the QI Program
6.8	Workers who had a supervision discussion (within 3 months)	🟡	🟡	🟡	🟡	🟢	🟡

Note: Feasibility, scientific acceptability, importance, and usability assessment criteria drawn from the US NQF.

🟢 High (median scores 7-9)　　🟡 Moderate (median scores 4-6)　　🔴 Low (median scores 1-3)

Figure 8: Prioritisation of quality indicators for this domain against matrix.

Priority	Quality indicator name
1	6.1. Responsiveness of staff, safety living at home, and confidence in staff
2	6.2. Number of home care workers providing care to an older person
3	6.3. Staff helping a client in 14-day period (average)
4	6.4. Staff retention
5	6.5. Visits for each client per home care worker
6	6.6. Evidence of processes to ensure consistent team of workers for each client
7	6.7. Evidence of supervision discussions with home care workers (every 3 months)
8	6.8. Workers who had a supervision discussions (within 3 months)

🚩 Licensing considerations

Outlined indicators are of equal priority ranking

Quality indicators pilot considerations

There are several issues that need to be considered in using the indicators in this domain for the pilot:

- Many of the quality indicators identified in the review are process indicators that reflect aspects of service delivery entirely within the control of the in-home aged care provider. This means that many of these quality indicators are not subject to the challenges of attribution and limited potential for quality improvement seen in quality indicators in many of the domains.

- There are a wide range of concepts of service delivery identified in the quality indicators in the review – ranging from staff retention through to continuity of staff for the in-home aged care consumer. Most quality indicators (regardless of measurement focus) did not score highly in terms of scientific properties. Consideration needs to be given to the balance between using these quality indicators in a pilot where there are sub-optimal scientific properties, however, are highly amenable to supporting quality improvement and consumer choice within an expanded in-home QI Program.

- The quality indicators in this domain are reflective of countries' specific environments, regulatory workforce policies, and own practice standards. Unlike other domains, the specific quality indicators within this domain can inform the development of quality indicators for the Australian setting that align with Australian policies, however themselves as described in the literature may not be applicable for the pilot without tailoring.

10

Pain

Definition of domain

The 2020 International Association for the Study of Pain definition of pain is "an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage."[48]

Why it is important to monitor this domain

Pain is a common, debilitating, and at times a treatable, symptom of a series of illnesses that affect older adults.[49] Musculoskeletal conditions, like arthritis and back pain, are some of the most common afflictions in older adults and these are associated with an increased risk of chronic pain. In Australia, it is estimated that 15-20 per cent of the general population have chronic pain.[50] Pain affects a significant and increasing portion of older adults, including those accessing aged care services, with 16 per cent of those having aged care eligibility assessments reporting pain as one of top 10 conditions affecting their need for assistance with activities of daily living and social participation.[51] [52] [53]

Pain affects people's functional capabilities, activities of daily living, quality of life, and overall disability.[54] [55] In a geriatric, frail person, or person with dementia, the effect of pain may be even more pronounced and cause more serious complications.[56] [57] [58] [59] Pharmacological management of pain is common in older people, but older people are also more susceptible to the potential complications and side effects associated with pain medications, such as non-steroidal anti-inflammatory drugs (NSAIDs) and opioids. Adverse events include functional impairment, falls, respiratory depression, constipation, dependency from opioids[60] as well as associated renal, gastrointestinal, and cardiovascular effects from NSAIDs.[61]

Quality indicators for this domain

A total of 10 quality indicators for this domain were identified in the evidence review and one was considered to have insufficient information to assess against the assessment criteria. Nine quality indicators were assessed against the assessment criteria with results indicated in Table 9.

The 9 quality indicators were also assessed against the prioritisation matrix with all assessed as having a high evidence base and being of high value to the QI Program (see Figure 9). The performance characteristics of these prioritised quality indicators is outlined in Table 22 in Appendix C.

---

[48] Srinivasa et al,2020
[49] Abdulla A et al 2013
[50] Blyth FM et al 2001
[51] Reid et al 2015
[52] Abdulla et al 2018
[53] Inacio et al 2020
[54] Abdulla et al 2018
[55] Inacio et al 2020
[56] Reid et al 2015
[57] Barber & Gibson 2009
[58] Patel et al 2013
[59] Corbett et al 2012
[60] Roxburgh et al, 2011.
[61] Risser et al, 2009 and Caughey et al, 2011.

Pain

Table 9: Quality indicator assessment results

Unique ID	Quality indicators	Feasibility	Importance	Usability	Scientific acceptability	Attribution	Value to the QI Program
7.1	Clients who complained or showed evidence of daily pain	🟡	🟡	🟡	🟢	🟡	🟢
7.2	Clients with pain (on pain medication or no pain medication)	🟡	🟡	🟡	🟢	🟡	🟡
7.3	Clients who have pain and are receiving inadequate pain control or no pain medication	🟡	🟡	🟡	🟢	🟡	🟡
7.4	Clients with at least daily episodes of severe pain at follow up	🟡	🟡	🟡	🟢	🟡	🟡
7.5	Clients with daily pain (over 3 days)	🟡	🟡	🟡	🟢	🟡	🟡
7.6	Clients with inadequate pain control	🟡	🟡	🟡	🟡	🟡	🟡
7.7	Clients with a reduction in pain	🟡	🟢	🟡	🟢	🟡	🟡
7.8	Clients whose pain improved	🟡	🟢	🟡	🟡	🟡	🟡
7.9	Clients with daily severe pain	🟡	🟡	🟡	🟡	🟡	🟡

Note: Feasibility, scientific acceptability, importance, and usability assessment criteria drawn from the US NQF.

🟢 High (median scores 7-9)   🟡 Moderate (median scores 4-6)   🔴 Low (median scores 1-3)

Figure 9: Prioritisation of quality indicators for this domain against matrix.

Priority	Quality indicator name
1 ►	7.1. Clients who complained or showed evidence of daily pain
2 ►	7.2. Clients with pain (on pain medication or no pain medication)
3 ►	7.3. Clients who have pain and are receiving inadequate pain control or no pain medication
4 ►	7.4. Clients with at least daily episodes of severe pain at follow up
4 ►	7.5. Clients with daily pain (over 3 days)
6 ►	7.6. Clients with inadequate pain control
7 ►	7.7. Clients with a reduction in pain
8 ►	7.8. Clients whose pain improved
9 ►	7.9. Clients with daily severe pain

► Licensing considerations

Outlined indicators are of equal priority ranking

Quality indicators pilot considerations

There are several issues that need to be considered in using the indicators in this domain for the pilot:

- Varied definitions and measurement tools for pain are used and advice is sought on the most useful for the Australian context.

- Several quality indicators focus on similar concepts in pain but measure either improvement or decline in pain. There is an opportunity for stakeholders to advise on whether there is a preference to measure improvement or decline in pain.

- Many of the quality indicators in this domain require sequential and linked assessments of individual consumers conducted in a standardised manner. For example, any quality indicator that measure 'improvement' or 'decline' requires two observational points. Within a six-week pilot cycle, it may not be possible to conduct two observations in a way that is consistent with the definitions used in the quality indicators. For quality indicators that measure incidence of daily or weekly pain, this consideration would not apply.

- Considerations are needed as to the ability of in-home aged care services to influence the quality indicators through their own actions. Some quality indicators identified for this domain may reflect minimal opportunity for the service provider to directly manage pain of the consumer and outcomes may be attributable to health care management by clinicians providing care in the community.

- There is an opportunity for stakeholders to advise on specific quality indicators in terms of the time frame in which measurement of pain should be made. Some quality indicators define this (eg daily or within the last 7 days), yet others do not have a defined time period specified in public documentation.

11

Continence

Overview of domain

Continence is the ability to control one's bladder and bowel elimination and incontinence is the involuntary loss of bladder and bowel control. It can be considered a part of activities of daily living (ADLs). Incontinence is not a physiological part of the ageing process. Age-related changes together with frailty, cognitive decline, or impaired mobility, can put older adults at risk of incontinence.[62] [63] Incontinence is known to increases the risk of poor health outcomes, such as falls, fractures, hospitalisations, mortality, poor quality of life, functional impairment, and deterioration in mental health.[64] [65] [66] [67] [68]

There is limited Australian data on incontinence prevalence, but some suggest that 12-13 per cent of people suffer from faecal incontinence and 37-63 per cent of women and 8-22 per cent of men over 80 suffer from urinary incontinence.[69] [70] Incontinence also significantly affects individual's caregivers, who are at higher risk of having a lower reported wellbeing, greater worry and depression, and general weariness and lack of energy whilst caring for someone with incontinence.[71]

Quality indicators for this domain

A total of 10 quality indicators for this domain were identified in the evidence review and one was considered to have insufficient information to assess against the assessment criteria. Nine quality indicators were assessed against the assessment criteria with results indicated in Table 10.

The 9 quality indicators were also assessed against the prioritisation matrix with all assessed as having a high evidence base and being of high value to the QI Program (see Figure 10). The performance characteristics of these prioritised quality indicators is outlined in Table 23 in Appendix C.

Table 10: Quality indicator assessment results

Unique ID	Quality indicators	Feasibility	Importance	Usability	Scientific acceptability	Attribution	Value to the QI Program
8.1	Clients who had difficulty controlling urination	🟠	🟠	🟠	🟢	🟠	🟠
8.2	Clients who experience a decline in bladder continence	🟠	🟠	🟠	🟢	🟠	🟠
8.3	Clients who experience a decline in bladder continence (incidence)	🟠	🟠	🟠	🟠	🟠	🟠
8.4	Clients who experience an improvement in bladder continence	🟠	🟠	🟠	🟢	🟠	🟠
8.5	Patients with improvement in bowel control	🟠	🟠	🟠	🟢	🟠	🟠
8.6	Patients with bladder or bowel problem in last 30 days	🟠	🟠	🟠	🟠	🟠	🟠

---

[62] Lim 2016
[63] Guinane & Crone 2018
[64] Lim 2016
[65] Nakanishi et al 1999
[66] Chiarelli et al 2009
[67] Chiarelli 2011
[68] Xu et al 2019
[69] Australian Institution of Health and Welfare 2013
[70] Guinane & Crone 2017
[71] Australian Institution of Health and Welfare 2013

Unique ID	Quality indicators	Feasibility	Importance	Usability	Scientific acceptability	Attribution	Value to the QI Program
8.7	Clients diagnosed with incontinence by doctor or specialised nurse	🟠	🟠	🟠	🟠	🟠	🟠
8.8	Clients with a catheter	🟠	🟠	🟠	🟠	🟠	🟠
8.9	Clients with obstipation (incidence)	🟠	🟠	🟠	🟠	🟠	🟠

Note: Feasibility, scientific acceptability, importance, and usability assessment criteria drawn from the US NQF.

🟢 High (median scores 7-9)   🟠 Moderate (median scores 4-6)   🔴 Low (median scores 1-3)

Figure 10: Prioritisation of quality indicators for this domain against matrix.

Priority		Quality indicator name
1	►	8.1. Clients who had difficulty controlling urination
2	►	8.2. Clients who experience a decline in bladder continence
3	►	8.3. Clients who experience a decline in bladder continence (incidence)
4	►	8.4. Clients who experience an improvement in bladder continence
5	►	8.5. Patients with improvement in bowel control
6		8.6. Patients with bladder or bowel problem in last 30 days
7		8.7. Clients diagnosed with incontinence by doctor or specialised nurse
8		8.8. Clients with a catheter
9	►	8.9. Clients with obstipation (incidence)

► Licensing considerations

Outlined indicators are of equal priority ranking

Quality indicators pilot considerations

There are several considerations for the piloting of these quality indicators:

- Continence related quality indicators may need to be considered for the pilot in light of different consumer populations within the in-home aged care context. For example, some quality indicators may only be appropriate for consumers receiving higher or more frequent levels of in-home support (for example the higher levels of home care packages) as the problem might only occur in a small proportion of the population served.

- Several quality indicators focus on similar concepts in continence but measure either improvement or decline in continence. There is an opportunity for stakeholders to advise on weather quality indicators should measure decline or improvement and which is more useful for the quality improvement objective of the QI Program.

- Many of the quality indicators in this domain require sequential and linked assessments of individual consumers conducted in a standardised manner. For example, any quality indicator that measure 'improvement' or 'decline' requires two observational points. Within a six-week pilot cycle, it may not be possible to conduct two observations in a way that is consistent with the definitions used in the quality indicators.

Continence

- The quality indicators identified for this domain cover a range of concepts associated with continence. It is necessary to determine whether quality indicators should reflect multiple aspects of continence (bladder and bowel) or only one aspect (bladder or bowel).

- There is an opportunity for stakeholders to advise on the ability of in-home aged care services to influence the quality indicators through their own actions. Many quality indicators identified for this domain may reflect minimal opportunity for the service provider to directly influence the incidence of incontinence for consumers. Quality indicators relating to the effective management of incontinence were unable to be identified in the evidence review.

12

Hospitalisations

Definition of domain

Hospitalisations are admissions to hospitals to receive treatment, which can be planned (ie elective) or unplanned. Emergency department care is also provided in many hospitals, and this includes urgent care provision that may or may not result in hospital admissions.

Why it is important to monitor this domain

In 2016, 38 per cent of Australians receiving home care packages experienced an unplanned hospitalisation, 44 per cent experienced an emergency department (ED) presentation, and 11 per cent a potentially preventable hospitalisation.[72] Many hospitalisations are considered potentially preventable with preventative health interventions, early disease management, or potential better access to certain care.[73]

Unintended consequences of hospitalisations in older people include increased cognitive and functional decline, falls, disability, fractures, and other serious health events, which are often exacerbated in the presence of dementia and cognitive decline in older people.[74] [75] [76] [77] On the other hand, many hospitalisations of older people are necessary for their health and wellbeing, including treatment of major health conditions and injuries that are unavoidable among frail older people.

Quality indicators for this domain

A total of 14 quality indicators for this domain were identified in the evidence review and one was considered to have insufficient information to assess against the assessment criteria. Thirteen quality indicators were assessed against the assessment criteria with results indicated in Table 11.

The 13 quality indicators were also assessed against the prioritisation matrix with 13 assessed as having a high evidence base and being of high value to the QI Program (see Figure 11). The performance characteristics of this prioritised quality indicators is outlined in Table 23 in Appendix C.

Table 11: Quality indicator assessment results

Unique ID	Quality indicators	Feasibility	Importance	Usability	Scientific acceptability	Attribution	Value to the QI Program
9.1	Emergency Department presentation within 30 days of discharge from hospital	🟢	🟢	🟢	🟢	🟠	🟠
9.2	Emergency Department visits by new home care clients in 30 days after leaving hospital	🟢	🟢	🟢	🟢	🟠	🟠
9.3	Patients who had a potentially preventable 30 day post-discharge readmission	🟢	🟢	🟢	🟢	🟠	🟠
9.4	Clients who require hospital stay or Emergency Department care	🟠	🟢	🟢	🟢	🟠	🟠
9.5	Hospitalisation or Emergency Department use in the 90-day period before follow-up assessment	🟠	🟢	🟢	🟢	🟠	🟠

---

[72] MC I 2021
[73] Australian Government Australian Institute of Health and Welfare 2019
[74] Fogg et al 2018
[75] Pedone et al 2005
[76] Loyd et al 2020
[77] Wolinsky et al 2009

Unique ID	Quality indicators	Feasibility	Importance	Usability	Scientific acceptability	Attribution	Value to the QI Program
9.6	Readmissions for new home care clients 30 days after leaving hospital	🟢	🟢	🟢	🟢	🟡	🟡
9.7	Acute care hospitalisation during first 60 days of home health stay	🟢	🟢	🟢	🟢	🟡	🟡
9.8	Hospital admission in 30 days between surveys	🟢	🟢	🟢	🟡	🟡	🟡
9.9	Emergency Department presentation or hospitalisation for medication-related events	🟢	🟢	🟡	🟢	🟡	🟡
9.10	Patients discharged to community with no unplanned acute hospital or long-term care facilities in 31 days after discharge	🟢	🟢	🟢	🟢	🟡	🟡
9.11	Clients who require hospitalisation, emergency department presentation or emergent care	🟡	🟢	🟢	🟢	🟡	🟡
9.12	Emergency Department presentation for clients with dementia or clients hospitalised for delirium or dementia	🟢	🟢	🟢	🟢	🟡	🟡
9.13	Emergency Department use without hospitalisation during the first 60 days of home health stay	🟢	🟢	🟢	🟢	🟡	🟡

Note: Feasibility, scientific acceptability, importance, and usability assessment criteria drawn from the US NQF.

🟢 High (median scores 7-9)   🟡 Moderate (median scores 4-6)   🔴 Low (median scores 1-3)

Figure 11: Prioritisation of quality indicators for this domain against matrix

Priority	Quality indicator name
1 ►	9.1. Emergency Department presentation within 30 days of discharge from hospital
2 ►	9.2. Emergency Department visits by new home care clients in 30 days after leaving hospital
3 ►	9.3. Patients who had a potentially preventable 30 day post-discharge readmission
4 ►	9.4. Clients who require hospital stay or Emergency Department care
5 ►	9.5. Hospitalisation or Emergency Department use in the 90-day period before follow-up assessment
6 ►	9.6. Readmissions for new home care clients 30 days after leaving hospital
7 ►	9.7. Acute care hospitalisation during first 60 days of home health stay
8	9.8. Hospital admission in 30 days between surveys
9 ►	9.9. Emergency Department presentation or hospitalisation for medication-related events
10 ►	9.10. Patients discharged to community with no unplanned acute hospital or long-term care facilities in 31 days after discharge
11 ►	9.11. Clients who require hospitalisation, emergency department presentation or emergent care
12 ►	9.12. Emergency Department presentation for clients with dementia or clients hospitalised for delirium or dementia
13 ►	9.13. Emergency Department use without hospitalisation during the first 60 days of home health stay

► Licensing considerations

Outlined indicators are of equal priority ranking

Quality indicators pilot considerations

There are several considerations for the piloting of these quality indicators:

- Most quality indicators identified in the evidence review use non-provider level data regarding hospital admissions. The pilot is intending to collect primary data regarding quality indicators directly from in-home aged care services which may be inconsistent with the use of these quality indicators.

- Quality indicators identified for this domain vary in relation to aspects of measurement such as Emergency Department or hospitalisation events. There is an opportunity for stakeholders to advise on which aspects of the domain are important to take to pilot. Several quality indicators ranked highly in the evidence review, focus on general hospitalisation and ED presentations which are generic measures of service utilisation and may be difficult to inform targeted quality improvement efforts for services.

- There is an opportunity for stakeholders to advise on the ability of in-home aged care services to influence the quality indicators through their own actions. Many quality indicators identified for this domain may reflect minimal opportunity for improvements depending on the health profile of the in-home aged care consumer population being serviced by the in-home aged care service provider. For example, these quality indicators may not be appropriate to apply to in-home aged care services that relate to house maintenance, gardening or domestic services but may relate to personal care and nursing in-home aged care services.

- Some quality indicators (for example readmission within 30 days) may more appropriately reflect the adequacy of post-acute care (and many other influencing factors) rather than actions of the in-home aged care service. There is an opportunity for stakeholders to advise on which quality indicators in this domain are considered to be within the direct influence of the service.

13

Depression

Definition of domain

Depression is a common and serious mood disorder that can affect all aspects of an individuals' life. Individuals who suffer depression may experience persistent feeling of sadness and hopelessness and lose interest in activities they normally would enjoy. Not all depression is formally 'diagnosed' by a health practitioner.

Why it is important to monitor this domain

The prevalence of depressive disorders later in life is between 5-37 per cent.[78] While depression prevalence estimates for older Australians receiving home care services specifically are unknown, at least 36 per cent of older Australians received pharmacological treatment for depression in 2015.[79] Depression is associated with higher mortality, morbidity, lower quality of life,[80] and as well as potential exacerbation of physical illnesses and dementia.[81] Depression and depressive symptoms can be managed, improved or resolved through behavioural or pharmacological therapies, and these are often sought from general practitioners.[82] [83] Pharmacological treatment in older adults can often complicate already complex comorbidity management, associated polypharmacy and cause subsequent drug interactions.[84]

According to the Australian Aged Care Quality Standards (Standard 3, requirement 3(d)),[85] aged care providers are expected to detect and provide support to address changes and deterioration of 'mental, cognitive or physical function, capacity or condition' of their consumers.

Quality indicators for this domain

A total of 4 quality indicators for this domain were identified in the evidence review and all were considered to have sufficient information to assess against the assessment criteria with results indicated in Table 12.

The 4 quality indicators assessed against the prioritisation matrix were all assessed as having a high evidence base and being of high value to the QI Program (see Figure 12). The performance characteristics of this indicators is outlined in Table 24 in Appendix C.

Table 12: Quality indicator assessment results

Unique ID	Quality indicators	Feasibility	Importance	Usability	Scientific acceptability	Attribution	Value to the QI Program
10.1	Clients whose mood declined	🟡	🟢	🟢	🟢	🟡	🟡
10.2	Clients with fewer depressive symptoms	🟡	🟢	🟢	🟢	🟡	🟡
10.3	Clients with more depressive symptoms	🟡	🟢	🟢	🟢	🟡	🟡
10.4	Clients suffering from depression	🟡	🟢	🟡	🟡	🟡	🟡

Note: Feasibility, scientific acceptability, importance, and usability assessment criteria drawn from the US NQF.

🟢 High (median scores 7-9)　　🟡 Moderate (median scores 4-6)　　🔴 Low (median scores 1-3)

---

[78] Luppa et al 2012
[79] Inacio et al 2021
[80] Alexopoulos 2005
[81] Kok & Reynolds 2017
[82] Alexopoulos 2005
[83] Kok & Reynolds 2017
[84] Kok & Reynolds 2017
[85] Australian Government Aged Care Quality and Safety Commission 2021

Figure 12: Prioritisation of quality indicators for this domain against matrix.
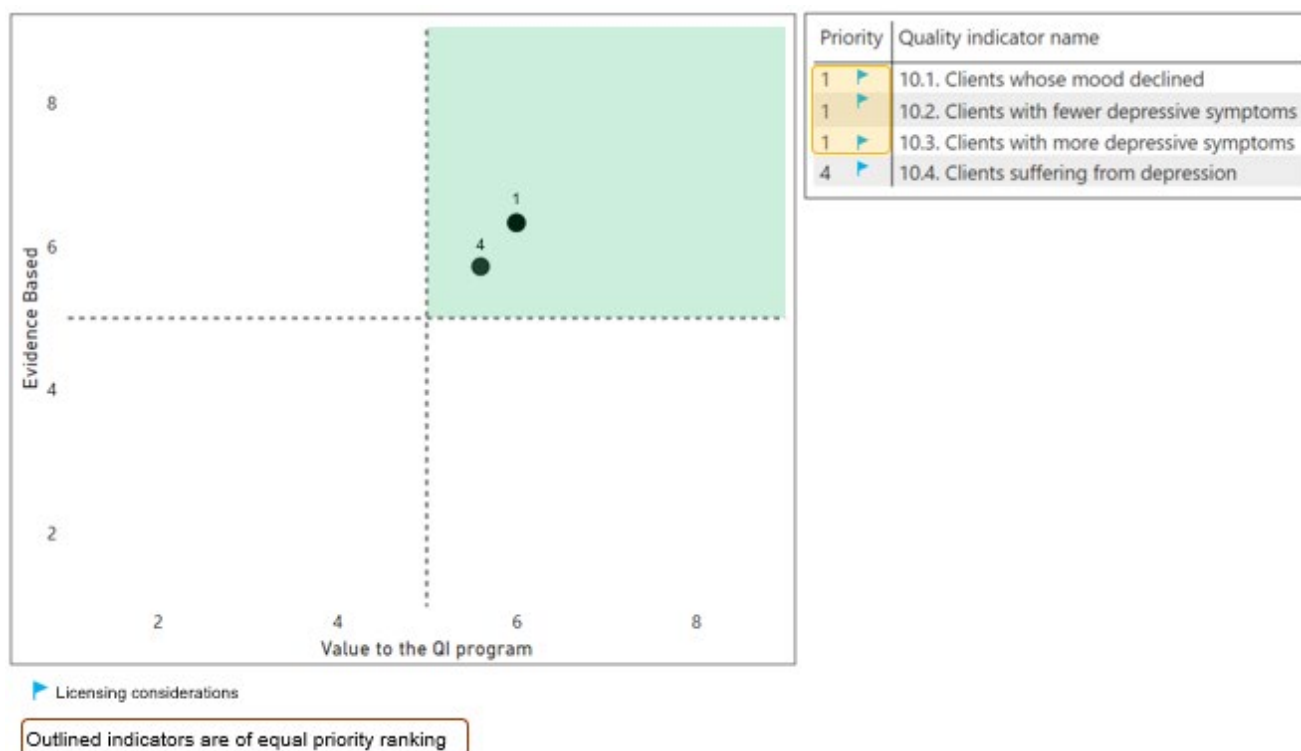
Priority		Quality indicator name
1	►	10.1. Clients whose mood declined
1	►	10.2. Clients with fewer depressive symptoms
1	►	10.3. Clients with more depressive symptoms
4	►	10.4. Clients suffering from depression

► Licensing considerations

Outlined indicators are of equal priority ranking

Quality indicators pilot considerations

There are several considerations for the piloting of these quality indicators:

- Varied definitions for depression, mood or depressive systems are used and advice is sought on the most suitable definition for the Australian context.

- Quality indicators focus on similar concepts in depression but measure either improvement (fewer) or decline (more) in depression, mood, or depressive symptoms. There is an opportunity for stakeholders to advise on whether there is a preference to measure improvement, decline or both in depression, mood or depressive symptoms.

- Many of the quality indicators in this domain require sequential and linked assessments of individual consumers conducted in a standardised manner. For example, any quality indicator that measure 'improvement' or 'decline' requires two observational points. Within a six-week pilot cycle, it may not be possible to conduct two observations in a way that is consistent with the definitions used in the quality indicators.

- There is an opportunity for stakeholders to advise on the type of staff from the in-home aged care service who are appropriate to collect data for these quality indicators. Stakeholders may be able to advise on the type of in-home aged care workers who are appropriate to collect data on depression. It may not be possible within the time frames of the pilot to train non-nursing staff to accurately identify and measure depressive symptoms for in-home aged care consumers.

- Many of the quality indicators in this domain require the use of validated or standardised tools to assess depression. Licenses to use these tools may need to be obtained before these can be used in the pilot (eg interRAI derived indicators). There is an opportunity for stakeholders to advise on tools currently used in practice that would be fit for purpose as the data collection tool for depression for in-home aged care.

14

Carer distress

Definition of domain

A carer is a person who provides support and care to another person. In the aged care context, a carer is often the person who is a family, friend or other non-paid person providing care and support to the older person living in the community. Carers are an important part of the Australian aged care system.

Why it is important to monitor this domain

In 2018 10 per cent of Australians reported being a carer for someone with either a disability or factors associated with ageing[86]. A third (33 per cent) of these carers were the primary care giver, which means being responsible for core activities of daily living for someone. Being a caregiver has well documented detrimental effects on the carer's own health and wellbeing, including poor emotional wellbeing, high levels of distress, sleep disturbances, depression, and challenges with social isolation and loneliness[87]. Support for carers exists nationally but varies regarding reach, coverage, and accessibility. However, this support, some of which is offered through the Commonwealth Home and Support Services (eg respite care), lacks evidence supporting the impact on carer's wellbeing despite reported satisfaction by carers that use such programs[88].

Domain ranking

This quality of care domain was ranked relatively low in the list of 19 domains identified in this review. This domain was assessed as low on the ability of the service to influence. It was assessed as having one or more evidence based quality indicator, international agreement on the definition and measurement of quality indicators in this domain, the importance of this domain for quality aged care. See Table 2 for ranking and assessment against domain criteria. Given the low ranking when assessed on these domains, the 4 indicators identified that related to carer distress did not progress to a full assessment against the quality indicator criteria and are not recommended for consideration in the pilot.

Quality indicators identified for this domain (in alphabetical order)

- clients whose primary informal caregiver experienced distress, anger, or depression in relation to their caregiving role or were unable to continue (over the last year)

- clients whose unpaid caregivers experience distress (over the last year)

- clients with caregivers who express distress, anger and or depression at baseline and follow-up (over 6-month period)

- clients with informal caregivers who report distress.

The performance characteristics of these indicators are outlined in Table 25 in Appendix C.

---

[86] Australian Government, 2021.
[87] Social Policy Research Center, 2019.
[88] Social Policy Research Center, 2019.

15

Medication Related
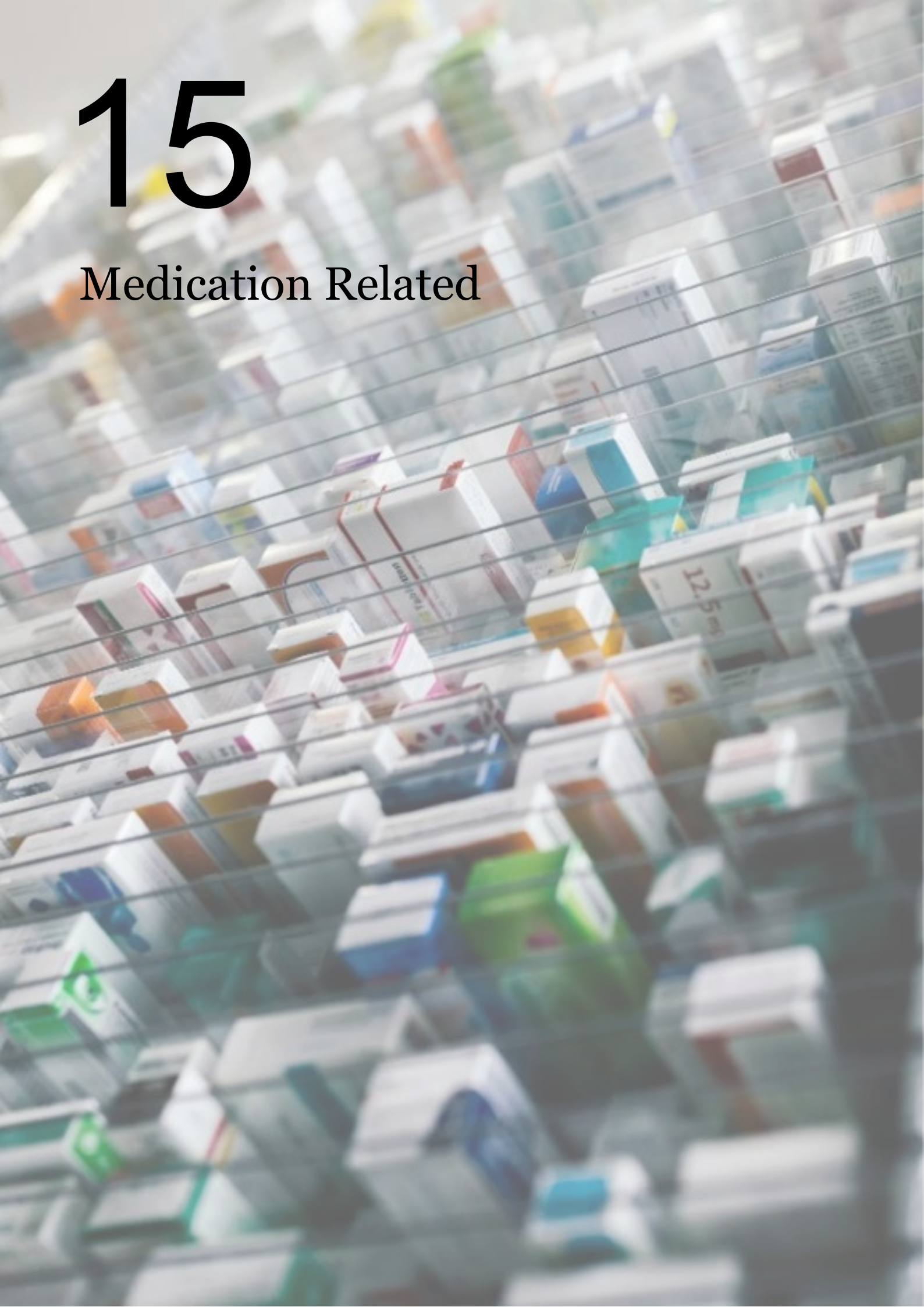
Definition of domain

Medications are some of the most common medical interventions and in 2019 Australia declared medicine safety its tenth national health priority area[89]. Problems with medications were the most frequent reason for complaints to the Aged Care Quality and Safety Commission[90] and the focus of one third of all online submissions to the Royal Commission into Aged Care Quality and Safety[91].

Why it is important to monitor this domain

With the increasing prevalence of multimorbidity (multiple chronic conditions) and associated polypharmacy (use of multiple medications) in the growing older population, older people's medication related needs have become increasingly complex[92]. This complex medication use is associated with an increased risk of adverse events and poor health outcomes. The evidence indicates a clear need to systematically, and routinely, monitor and assess medication-related quality of care.

Domain ranking

This quality of care domain was ranked relatively low in the list of 19 domains identified in this review. This domain was assessed as low on the ability of the service to influence. It was assessed as having one or more evidence based quality indicator, international agreement on the definition and measurement of quality indicators in this domain, the importance of this domain for quality aged care. See Table 2 for ranking and assessment against domain criteria. Refer to Table 2 for ranking and assessment against domain criteria. Given the low ranking when assessed on these domains, the quality indicators identified that related to medication did not progress to a full assessment against the quality indicator criteria and are not recommended for consideration in the pilot.

Quality indicators identified for this domain (in alphabetical order)

- clients or carers who are instructed on how to monitor the effectiveness of drug therapy, how to recognise potential adverse effects, and how and when to report problems
- clients who are chronic opioid users (for at least 90 days)
- clients who had at least one potential period of high sedative load (SL≥3) medication use (in a 91-day period)
- clients who have a drug regimen review conducted at the start or resumption of care with follow-up completed for identified issues
- clients who have been treated with an antipsychotic drug
- clients who have received a home medication review
- clients who improve in their ability to take their medications correctly (by mouth)
- clients who improve or stay the same in their ability to take their medications correctly (by mouth)
- clients who were dispensed at least one antibiotic for systemic use
- clients who were dispensed at least one antipsychotic medication
- clients with 10 or more medications
- clients with at least one of 4 indicators of inappropriate drug use
- clients with inconsistent drug intake
- clients with 3 or more psychoactive drugs concurrently.

The performance characteristics of these quality indicators are outlined in Table 26 in Appendix C.

---

[89] ACQSHC, 2020
[90] ACQSC 2020.
[91] Australian Government Department of Health. 2012.
[92] Inacio et al 2021.

16

Wait times/system access

Definition of domain

Wait times are the amount of time that individuals usually have to wait between being assessed (or approved) for a service and actually receiving the service.

Why it is important to monitor this domain

Waiting periods for services are often used as quality indicators of system level stress, unmet needs, and access barriers[93]. Particularly within aged care, a shorter time between an aged care eligibility assessment (or application in other countries), service approvals, and entering care is preferred and long waiting times can indicate unmet needy.

Domain ranking

This quality of care domain was ranked relatively low in the list of 19 domains identified in this review. This domain was assessed as low on the ability of the service to influence and international agreement on the definition and measurement of quality indicators in this domain. It was assessed as having one or more evidence based quality indicators and important for quality aged care. See Table 2 for ranking and assessment against domain criteria. Given the low ranking when assessed on these domains, the 7 quality indicators identified that related to waiting times did not progress to a full assessment against the quality indicator criteria and are not recommended for consideration in the pilot.

Quality indicators identified for this domain (in alphabetical order)

- clients who waited 5 days or less from date of authorisation for personal support services

- clients who waited 5 days or less from date of authorisation for nursing services

- clients whose care started or resumed on the physician-ordered date (if provided), or otherwise within 2 days of the referral date or inpatient discharge date, whichever is later

- median number of days clients waited for home care services

- median number of days clients waited for services following Aged Care Assessment Program assessment approval

- median number of days clients waited for services from the date that the initial referral was received

- number of days clients waited for services from the date of application.

The performance characteristics of this indicators is outlined in Table 27 in Appendix C.

---

[93] McIntyre & Chow, 2020.

17

Behavioural symptoms

Definition of this domain

Behaviour and personality changes are often part of the progression of dementia. These symptoms often include moodiness, anxiety, apathy, agitation, irritability sleeping problems, wandering, and confusion.

Why it is important to monitor this domain

Dementia is often associated with behavioural and psychosocial symptoms of dementia (BPSD)[94]. BPSD can be associated with poor staff training and availability as well as individual's pain, depression, and cognitive impairment[95]. These symptoms are often managed with pharmacological treatment and contribute to the over-reliance on antipsychotics in in-home aged care, despite recommendations that first line of treatment be non-pharmacological[96]. Most interventions for BPSD have low to very low evidence.

Domain ranking

This quality of care domain was ranked relatively low in the list of 19 domains identified in this review. This domain was assessed as low on the ability of the service to influence. It was assessed as having one or more evidence based quality indicators, international agreement on the definition and measurement of indicators in this domain and important for quality aged care. Refer to Table 2 for ranking and assessment against domain criteria. Given the low ranking when assessed on these domains, the indicators identified that related to behavioural symptoms did not progress to a full assessment against the quality indicator criteria and are not recommended for consideration in the pilot.

Quality indicators identified for this domain (in alphabetical order)

- clients who improve in their frequency of experiencing confusion

- clients whose communication ability declined (problems understanding, or being understood by, other people)

- clients with a score of less than 8 on the communication scale (problems understanding others or making themselves understood) who experience a decline (over 6 months)

- clients with delirium

- clients with some difficulty on the communication scale (problems understanding others or making themselves understood) who experience an improvement (over 6 months).

The performance characteristics of these quality indicators are outlined in Table 28 in Appendix C.

---

[94] AIHW, 2020.
[95] Laver et al, 2016. And Nazir et al, 2011.
[96] Laver et al, 2016 and Westaway et al, 2020.

18

Infection (including antibiotics and vaccinations)

Infection (including antibiotics and vaccinations)

Definition of domain

Infections are a significant cause of mortality and morbidity in older people, who often may not have the typical symptoms of infections (eg fever, respiratory symptoms). This lack of typical symptoms makes early detection of these conditions challenging. Vaccines are effective ways to protect people against infections caused by bacteria and viruses. These biological substances are given to people to stimulative the body's immune response against disease.

Why it is important to monitor this domain

Older people are at high risk of infection and sepsis, partially due to age-related factors such as pathological changes to the immune system, malnutrition, incontinence, functional disability, impaired cognitive status, and presence of chronic diseases[97]. Minimisation of infection-related risks throughout infection control (including offer and monitor vaccinations) and appropriate antibiotics use are both requirements of the Australian Aged Care Quality Standards (Standard 3, requirement 3(g))[98].

Domain ranking

This quality of care domain was ranked relatively low in the list of 19 domains identified in this review. This domain was assessed as low on the ability of the service to influence and importance. It was assessed as having one or more evidence based quality indicators and international agreement on the definition and measurement of quality indicators in this domain. See Table 2 for ranking and assessment against domain criteria. Given the low ranking when assessed on these domains, the quality indicators identified that related to infection control did not progress to a full assessment against the quality indicator criteria and are not recommended for consideration in the pilot.

Quality indicators identified for this domain (in alphabetical order)

- clients who are offered and decline the influenza vaccination for the current flu season

- clients who did not receive the influenza vaccination (incidence)

- clients who did not receive the influenza vaccination (prevalence)

- clients who received the influenza vaccination for the current flu season

- clients who were did not receive the current influenza immunization due to medical contraindication

- clients with a respiratory infection (in the last 30 days)

- clients with a urinary tract infection (in the last 30 days)

- clients with a urinary tract infection (incidence).

The performance characteristics of these quality indicators are outlined in Table 29 in Appendix C.

---

[97] Van Buul et al, 2012.
[98] Australian Government, ACQSC.

19

Cognition

Cognition

Definition of domain

Cognitive impairment usually refers to an individual having memory and thinking problems, learning new things, or concentrating.

Why it is important to monitor this domain

Cognitive impairment can be related to several aetiologies, is estimated to be present in 10-20 per cent of older adults. This is usually a precursor to dementia, which affects over 50 per cent of residents of aged care services and 20 per cent of home care package recipients[99]. Monitoring cognitive decline may lead to opportunities to delay and improve the cognitive declines[100]. However, there is no strong evidence to support a single intervention to prevent decline and dementia, which likely requires a multifaced approach along the life course[101].

According to the Australian Aged Care Quality Standards (Standard 3, requirement 3(d)),[102] aged care providers are expected to detect and provide support to address changes and deterioration of 'mental, cognitive, or physical function, capacity or condition of the consumers. There is controversy within the psychogeriatric field about the tools used to measure quality indicators in this domain and consensus for measures is required[103].

Domain ranking

This quality of care domain was ranked low in the list of 19 domains identified in this review. This domain ranked high on the assessment of the existing of one or more evidence based quality indicators and international agreement on the definition and measurement of quality indicators in this domain. It was assessed less well in relation to the importance of this domain for quality aged care and the ability of the service to influence. Refer to Table 2 for ranking and assessment against domain criteria. Given the low ranking when assessed on these domains, the 5 quality indicators identified that related to cognition did not progress to a full assessment against the quality indicator criteria and are not recommended for consideration in the pilot.

Quality indicators identified for this domain (in alphabetical order)

- clients with a score of less than 6 on the Cognitive Performance Scale at baseline who experience a further decline (over 6 months)

- clients with cognitive disorders (over the last 30 days)

- clients with cognitive impairment

- clients with some baseline cognitive impairment on the Cognitive Performance Scale who experience an improvement (over 6 months)

- percentage of clients whose cognitive ability declined (assessed on the Cognitive Performance Scale).

The performance characteristics of these quality indicators are outlined in Table 30 in Appendix C.

---

[99] Langa and Levine, 2014, and Inacio et al, 2021.
[100] Petersen et al, 2018.
[101] Livingston et al, 2020.
[102] Australian Government, 2020
[103] Hirdes et al, 2019.

20

Palliative care

Definition of domain

Palliative care is care that is provided for individuals with life limiting illnesses.

Why it is important to monitor this domain

Person-centred care at the end of life can improve individuals' quality of life[104]. Preparing, using, and maintaining advance care directives in aged care particularly for individuals with dementia, is one of the Australian National Palliative Care Strategies priorities under the goal of investment in a skilled workforce and system to deliver palliative care.

The Australian Aged Care Quality Standards have two requirements that refer to palliative care/end of life care. The first is regarding advance care planning and end of life planning assessment (Standard 2.3(b)) and the second refers to ensuring the needs and preferences of individuals are acknowledged and comfort and dignity preserved (Standard 3.3(c)).[105]

Domain ranking

This quality of care domain was ranked low in the list of 19 domains identified in this review. This domain ranked lower on the assessment of the existing of one or more evidence based quality indicators and international agreement on the definition and measurement of quality indicators in this domain. It was assessed well in relation to the importance of this domain for quality aged care and the ability of the service to influence. Refer to Table 2 for ranking and assessment against domain criteria. Given the low ranking when assessed on these domains, the quality indicators identified that related to palliative care did not progress to a full assessment against the quality indicator criteria and are not recommended for consideration in the pilot.

Quality indicators identified for this domain (in alphabetical order)

- clients who had an assessment of pain in the 7 days before death

- clients who had an unplanned visit to the Emergency Department in the 30 days before death

- clients who lived in the community and received at least one home care service in the 30 days before death

- involvement of family in guiding palliative care programs

- mastery of palliative care skills.

The performance characteristics of these quality indicators are outlined in Table 31 in Appendix C.

---

[104] Australian Government, 2018.
[105] Australian Government, 2020.

21

Other clinical

Definition of domain

Clinical care is health care that includes the prevention, treatment and management of illness or injury, as well as the maintenance of psychosocial, mental, and physical well-being. It includes care provided by doctors, nurses, pharmacists, allied health professionals and other regulated health practitioners. Organisations providing clinical care are expected to make sure it is best practice, meets the consumer's needs, and optimises the consumer's health and well-being[106].

Why it is important to monitor this domain

Older people receiving in-home aged care services commonly have multiple chronic conditions (multimorbidity), with significant clinical care needs[107]. Provision of home care services aims to facilitate the ongoing care, management of symptoms and monitoring of these conditions. For example, dyspnoea interfering with activity levels, is an important health status indicator, impacting on quality of life and ability to conduct a range of daily activities[108]. In the United States 70 per cent of patients who receive home care services have some dyspnoea interfering with activities, which can be a risk factor for hospitalisation[109].

Domain ranking

This quality of care domain was ranked low in the list of 19 domains identified in this review. This domain ranked low on the assessment of the existing of one or more evidence based quality indicators, international agreement on the definition and measurement of quality indicators in this domain, the importance of this domain for quality aged care and the ability of the service to influence. See Table 2 for ranking and assessment against domain criteria. Given the low ranking when assessed on these domains, the indicators identified that related to other clinical issues did not progress to a full assessment against the quality indicator criteria and are not recommended for consideration in the pilot.

Quality indicators identified for this domain (in alphabetical order)

- cases of unplanned extubation (incidence)
- clients who have mouth problems
- clients who improve in dyspnoea
- clients with new or reoccurring pre-existing disease (in the last 30 days)
- clients with poor dyspnea control (in the last 30 days)

The performance characteristics of these quality indicators are outlined in Table 32 in Appendix C.

---

[106] Australian Government, 2021.
[107] Inacio et al, 2021.
[108] Centre for Medicare and Medicade Services. 2020.
[109] Centre for Medicare and Medicade Services. 2020 and Fortinsky et al, 2021.

22

Mortality

Definition of domain

Mortality is the number of deaths within a given population.

Why it is important to monitor this domain

Mortality rates can be used as an indicator of overall population health and quality of health care systems. The identification of deaths that are likely premature and potentially preventable for older people in aged care may provide a sensitive marker of suboptimal care.

Strategies to prevent these potentially avoidable deaths together with a national policy framework and regulatory body to reduce harm in aged care has since been advocated for.

Domain ranking

This quality of care domain was ranked last in the list of 19 domains identified in this review. This domain ranked low on the assessment of the existing of one or more evidence based quality indicators, international agreement on the definition and measurement of quality indicators in this domain, the importance of this domain for quality aged care and the ability of the service to influence. See Table 2 for ranking and assessment against domain criteria. Given the low ranking when assessed on these domains, the one quality indicator identified that related to mortality did not progress to a full assessment against the quality indicator criteria and are not recommended for consideration in the pilot.

Quality indicators identified for this domain (in alphabetical order)

- clients who had a premature death.

The performance characteristics of this indicator are outlined in Table 33 in Appendix C.

23

Summary and discussion

Summary and discussion

The objective of this evidence review is to identify, assess and present the evidence base for quality of care domains and quality indicators suitable for application to in-home aged care. This evidence will inform the domains and quality indicators to take to consultation with stakeholders prior to the selection of quality indicators for pilot.

The evidence review identified 19 domains of quality of care and 230 quality indicators used for in-home aged care across several countries. Each domain was assessed and ranked in terms of:

- the importance to monitor for quality

- the domain had at least one evidence based indicator

- there is international agreement that the domain is important

- the in-home aged care service can influence care and experiences in the domain.

As outlined previously, the evidence review and application of the analytic framework resulted in the top 10 domains, with 175 quality indicators assessed and ranked against 6 criteria, and then prioritised based on the assessment of the evidence base and value to the QI Program. Key considerations that may impact the quality indicators chosen to take to pilot have been identified, including:

- selecting domains and quality indicators for pilot that support the quality improvement objective of the QI Program

- selecting domains and quality indicators for pilot that support the consumer information objective of the QI Program

- use of quality indicators that are subject to copyright and licencing arrangements

- use of quality indicators that require multiple observations within a six-week pilot

- the feasibility of data collection directly from in-home aged care services for some quality indicators

- accounting for different consumer populations and types of services in the pilot

- the preference for quality indicators that focus on improvement or decline

- the use of validated or standardised tools for measurement.

Each of these considerations for pilot is outlined in more detail below.

	Selecting domains and quality indicators for pilot that support the quality improvement objective of the QI Program

This project aims to identify a set of domains and quality indicators to pilot within the in-home aged care setting in Australia.

The overall objectives of the QI Program are to:

- provide older people with more information about the quality of aged care services when making choices about their care

- support aged care services to measure, monitor, compare and improve the quality of their services

- provide the government with system-level measures of quality in aged care and an evidence-base to inform policy and regulation.

The pilot should include a selection of quality indicators that are able to be influenced, changed, or improved by in-home aged care services, where their actions can change the outcome over time. Driving quality improvement can occur when the quality indicator is used within organisations or shared in an anonymised format among organisations.

These quality indicators can be used to monitor performance over time, with the assumption that the consumer profiles are fairly stable within an organisation or can be used among collaborating organisations to promote quality improvement discussions.

A key consideration identified during this review is that not all quality indicators can be influenced directly by aged care services, this is evident in the 'attribution' criteria assessment results for the applicable quality indicators. Most quality of care domains for in-home aged care are not exclusively affected by the service. Good outcomes for in-home aged care consumers depends on the complex contributions of medical and allied health practitioners, local hospitals, carers and other family members, the person themselves and the in-home aged care service.

Even for those quality indicators where there is evidence that a service can substantially influence outcomes for the consumer, consideration needs to be given to how this might look like in the context of a reformed in-home aged care system where consumers can choose from more than one in-home aged care service supplier. This may mean that outcomes on these quality indicators for the consumer may not be able to be attributed to any one service, rather they may be influenced more by the collective interplay of multiple services supporting that person.

Several other quality indicator reporting systems have been found to tailor in-home aged care indicators to specific services or consumer groups (eg only to home care consumers receiving nursing or clinical services in the United States of America), a possible approach to be considered in addressing attribution challenges.

In order to support quality improvement as a key objective of the QI Program, quality indicators for pilot could focus on either 'improvement' or 'decline' type measurements. Stakeholder and expert advice on the technical aspects of quality indicators will be sought to determine which approach to measurement is more useful in supporting quality improvement.

Domains and quality indicators for pilot that support the consumer information objective of the QI Program

The pilot should include a selection of quality indicators that are meaningful to consumers and assists their understanding of the quality of care and service provided by the aged care service and how this differs from other aged care services. The potential use of quality indicators for identifiable public reporting requires quality indicators that can detect differences in the performance of in-home aged care services.

For this reason, it is important to select quality indicators to pilot which can:

- be scored consistently within and between services,

- allow for a range of performance by services (eg no ceiling or floor effect or rare occurrences), and

- be risk adjusted to account for the variations in consumers and services (potentially requiring additional data linked at the individual level).

Not all quality indicators identified in the review would be meaningful for consumers to support informed decision making about in-home aged care services.

Use of quality indicators that are subject to copyright and licencing arrangements

Many of the quality indicators prioritised in this evidence review with high quality of evidence and high value for application to the QI Program, are derived from data elements (usually clinical observations) that are subject to copyright and licensing agreements.

Licenses would need to be obtained to include these quality indicators in the pilot, as is the case for the majority of quality indicators used in Canada, Finland, Iceland, New Zealand, and the United States of America (where interRAI systems are mandated).

Use of quality indicators that require multiple observations within a six-week pilot

Several quality indicators require multiple assessments over a longer period of time, potentially preventing appropriate assessment during the six-week project pilot period. For example, a quality indicator that measures the functional decline over 3 months will require two points of data collection (one at the start of month one and one at the end of month 3). For indicators where repeat measures are required, in a six-week pilot study, only the base (or initial) measure can be tested for ease of completion or prevalence of the issue, but the full indicator cannot not be calculated.

The in-home aged care system is designed to allow both choice by consumers as well as to increase or decrease supports in response to variation in care needs. This poses challenges in data collection where sequential observations to account for movement of consumers between different services are required. This could be managed within the pilot by the careful selection of quality indicators and guidance to services and will need to be considered as part of an expanded QI Program.

The feasibility of data collection directly from aged care services for some quality indicators

Quality indicators selected for pilot are likely to require similar methods for data collection as the current QI Program, including direct collection from services on a quarterly basis. Several quality indicators identified in this review use data obtained from non-provider sources, potentially reducing data burden for in-home aged care services in the pilot.

The potential data collection burden for aged care services to participate in the quality indicator pilot needs to be considered. For some of the quality indicators outlined in this review, data does not currently exist in a format that would be easily accessible for services to report on during the pilot. To operationalise many of the prioritised quality indicators in the pilot, new data would need to be collected by in-home aged care services and in some cases using new instruments or screening tools not routinely used.

Data collection burden may vary depending on service characteristics (eg digital record keeping, service maturity, service size, infrastructure), data source required, number of observations or measurements needed, use of specific instruments/tools and if the data requires specific staff to collect (eg nursing staff).

- For services who offer both residential and in-home aged care support, the data collection burden for piloting some of these quality indicators in the in-home aged care environment may be reduced as they be able to use existing processes and reporting mechanisms developed for domains, they already report on for the QI Program.

- For many quality indicators, a point prevalence approach is used (how many in-home aged care consumers have a problem at a point in time). These types of indicators are possible to collect in home care on a single day or week for the pilot but only for the consumers who receive services during the pilot period. To overcome this, some jurisdictions use a 'virtual' point prevalence approach for their quality indicators. For example, all clients of the service are assessed every 6 months from admission to their service, and the prevalence is calculated from the most recent assessment (which might be more than 6 months old). These issues of 'how' to collect information for all, or a subset of, consumers in the pilot need to be considered together with careful selection of quality indicators.

Accounting for different consumer populations and types of services in the pilot

In-home aged care services are as diverse as the needs of the consumers that access them. Within in-home aged care, considerable variation exists in the type and complexity of services offered by a service (from gardening through to wound care) and the type of consumers accessing in-home aged care services (from irregular support through to daily care needs including those with the highest level of care support needs).

Many of the domains and quality indicators would apply to only a subset of services and consumers within the Australian in-home aged care sector. For example, the domain of continence contains quality indicators that would apply only to the sub-set of consumers with incontinence issues, and to the services who specifically provide continence support.

The application of domains and quality indicators to different consumer groups within the broader in-home aged care system poses several challenges for the pilot. Consideration should be given to tailoring the pilot to test quality indicators to specific types of services and consumers where it makes sense to do so.

Several international quality indicator programs have incorporated risk adjustment for consumer characteristics. The need to collect information on relevant diagnoses and underlying health profiles of the service's populations should be considered to understand quality indicator performance for different services during the pilot.

 The specific focus of quality indicators in a domain for the pilot.

Many quality indicators identified in each domain in the review reflect slight variations in quality indicator definitions from different countries. This has resulted in the inclusion of multiple quality indicators within the same domain that measure the same or very similar concepts. Some of these variations in definitions are attributable to international bodies using different versions of the same instruments. The value of measuring a specific concept needs to be considered when selecting quality indicators from the range identified in each domain to take to pilot.

 The use of validated or standardised tools for measurement

Several the quality indicators identified in the review require the use of validated and/or standardised scoring instruments. These may require complex measurement (eg multi-item scales), specific training requirements for data collection and licensing and copywrite arrangements. The selection of quality indicators for pilot will need to consider if there are existing validated or standardised instruments used in in-home aged care that could be used to collect the data and if it is feasible to provide training on the use of specific instruments prior to the pilot.

Augmenting the evidence review with advice from stakeholders

This evidence review has identified quality of care domains with quality indicators for each domain. Those with the highest evidence base and value to the QI Program have been prioritised and ranked.

As part of developing quality indicators for in-home aged care, the next step will be to take the domains and quality indicators found in the evidence review to consultation with aged care stakeholders and a technical expert group. This feedback will help guide the potential domains and quality indicators for pilot and the further expansion of the QI Program.

The objective of the consultation process is to enable all relevant parties the opportunity to provide verbal and/or written feedback on the potential domains and associated quality indicators identified in the evidence review including any technical findings highlighted during the review and assessment of each quality indicator. It will also provide an opportunity to gain feedback on CEQOL assessment tools identified by the Department. This feedback will help guide the potential domains and quality indicators for pilot and the further expansion of the QI Program.

Appendices

Appendix A   References

References for chapter four: Function and ADLs

- Australian Government. Aged Care Quality and Safety Commission. The Aged Care Quality Standards (Quality Standards). 2021. (Accessed September 25, 2021, at https://www.agedcarequality.gov.au/providers/standards.)

- Deandrea S, Lucenteforte E, Bravi F, Foschi R, La Vecchia C, Negri E. Risk factors for falls in community-dwelling older people: a systematic review and meta-analysis. Epidemiology 2010;21:658-68.

- Kadushin G. Home health care utilization: a review of the research for social work. Health Soc Work 2004;29:219-44.

- McLaren AN, Lamantia MA, Callahan CM. Systematic review of non-pharmacologic interventions to delay functional decline in community-dwelling patients with dementia. Aging Ment Health 2013;17:655-66.

- O'Caoimh R, Cornally N, Weathers E, et al. Risk prediction in the community: A systematic review of case-finding instruments that predict adverse healthcare outcomes in community-dwelling older adults. Maturitas 2015;82:3-21.

- Quinn TJ, McArthur K, Ellis G, Stott DJ. Functional assessment in older people. BMJ 2011;343:d4681.

- Tak E, Kuiper R, Chorus A, Hopman-Rock M. Prevention of onset and progression of basic ADL disability by physical activity in community dwelling older adults: a meta-analysis. Ageing Res Rev 2013;12:329-38.

- The Registry of Senior Australians (ROSA) Stage 1 Report. 2019. (Accessed September 29, 2021, at https://static1.squarespace.com/static/5b8c84fc4cde7abe6c3e7d7c/t/5ce2517a3e267200019ce7a7/1558335882656/ROSA_Stage1_Report_Final_Updated16-05-2019.pdf).

References for specific quality indicators

- **Engaging in daily activities, engaging in activities involving movement:** Igarashi A, et al. Quality Assurance in Long-Term Care and Development of Quality Indicators for Japan. Gerontol Geriatr Med. 2020 6:1-8, and https://doi.org/10.1177/2333721420975320, and Fukui C, Igarashi A, Noguchi-Watanabe M, et al. Development of quality indicators for evaluating the quality of long-term care. Geriatr Gerontol Int. 2021 1-2. https://doi.org/10.1177/233372.

- **Declined Activities of Daily Living (ADLs), declined Instrumental Activities of Daily Living (IADLs):** https://secure.cihi.ca/free_products/hcrs-ca-output-specifications-manual-2021-2022-en.pdf, https://indicatorlibrary.cihi.ca/display/HSPIL/Wait+Times+for+Home+Care+Services, and https://secure.cihi.ca/free_products/HCRS-Data-Submission-Specs-2017-2018-EN.pdf, and https://indicatorlibrary.cihi.ca/display/HSPIL/Caregiver+Distress, Canadian Institute for Health Information. Home Care Reporting System – Contact Assessment: Output Specifications, 2021-2022. Ottawa, ON: CIHI; 2021.

- **ADL improvement, ADL decline, IADL improvement, IADL decline:** Foebel AD, van Hout HP, van der Roest HG, et al. Quality of care in European home care programs using the second generation interRAI Home Care Quality Indicators (HCQIs). BMC Geriatr. 2015;15:148. Published 2015 Nov 14. doi:10.1186/s12877-015-0146-5 , and Morris, J.N., Fries, B.E., Frijters, D. et al. interRAI home care quality indicators. BMC Geriatr 13, 127 (2013). https://doi.org/10.1186/1471-2318-13-127.

- **Number of cases of ADL decline:** Tang X, Chen X, Pang Y and Zhou L. The development of quality indicators for home care in China. Int J Qual Health Care. 2018;30:208-218, and Tang X, Ge S, Ma C and al. e. Evaluating the Quality of Home Care in China Using the Home Care Quality Assessment Tool. Journal of Transcultural Nursing. 2021;32:173-179.

- Decline independence, rehabilitation potential and no therapies, difficulty in locomotion and no assistive device, impaired locomotion in home: Wagner A, Zúñiga F, Rüesch P, Schaffert R, Dratva J, on behalf of the HCD Research Group (2020) Selecting home care quality indicators based on the Resident Assessment Instrument-Home Care (RAI-HC) for Switzerland: A public health and healthcare providers' perspective. PLoS ONE 15(12): e0244577. https://doi.org/10.1371/journal.pone.0244577, and Burla L, Schaffert R, Mylaeus M and Rüesch P. Developing and testing quality indicators in home care in Switzerland. Public Health Service. 2010;72:106-113, and Vincent C and Staines A. Enhancing the quality and safety of Swiss healthcare. www.bag.admin.ch › bag › qualitaetssicherung. 2019.

- **Stabilization in grooming, improvement in upper body dressing, improvement in lower body dressing, improvement in bathing, stabilisation in bathing, improvement in toilet transferring, stabilisation in toilet transferring, stabilisation in toileting hygiene, improvement in bed transferring, stabilization in bed transferring, improvement in ambulation/locomotion:** https://cmit.cms.gov/CMIT_public/ViewMeasure?MeasureId=785#tab1.

References for chapter five: Service delivery and care plans

- Australian Government. Aged Care Quality and Safety Commission. The Aged Care Quality Standards (Quality Standards). 2021. (Accessed September 25, 2021, at https://www.agedcarequality.gov.au/providers/standards.)

References for specific quality indicators

- **Chronic Disease Management Plan:** Inacio MC, Lang C, Caughey GE, Bray SCE, Harrison SL, Whitehead C, Visvanathan R, Evans K, Corlis M, Cornell V, Wesselingh S. The Registry of Senior Australians outcome monitoring system: quality and safety indicators for residential aged care. Int J Qual Health Care. 2020 Nov 9;32(8):502-510. doi: 10.1093/intqhc/mzaa078. PMID: 32696038, and Caughey GE, Lang C, Bray S, Whitehead C, Visvanathan R, Evans K, Corlis M, Cornell V, Wesselingh S, Inacio MC. Development and Prevalence of Quality and Safety Indicators for Home Care Recipients in Australia. Submitted BMJ Quality and Safety. 2021.

- **Sound rules and regulations about recording and handling doctor's orders, sound rules and regulations about storage and disposal of sterile items in home environment, sound rules and regulations about hand hygiene in home environment, sound rules and regulations about placing home care operational items, sound rules and regulations about medical related waste disposal in home environment, sound rules and regulations about risk prevention in home environment, environmental preparations for home care operation meet the requirements, the percentage of quality area preparations before home care operation, being equipped with appropriate vehicle for home visits, being equipped with appropriate tools to carry home care functions , being equipped with medical and nursing documents related to home visit, being properly equipped for home care, being equipped with medication and supplies for first aid according to specific situations , monitoring vital signs of home patients, monitoring complications of home patients, monitoring home patients with different tubes in term of drainage volume, colour, quality, and degree of patency, assessing needs of home patients, assessing nutrition condition of home patients, assessing skin condition of home patients, assessing safety of home patients, assessing psychological status of home patients, home care technology can meet demand of community residents, home care technology operation process complying with operational standards, implementing basic nursing according to individual home patient's condition, the percentage of quality preparation of sterile items before home care operation, the percentage of nurses properly carrying sterile items, the percentage of quality preparation of personal appearance before home care operation, the percentage of qualified preparation of hand hygiene before home care operation, health education and guidelines for home patients, health education and guidelines for caregivers of home patients, the percentage of proper management of adverse events, the percentage of proper disposal of specimens, the percentage of proper disposal of medical waste, development and implementation of rehabilitation plans, percentage of follow-up implementation:** Tang X, Chen X, Pang Y and Zhou L. The development of quality indicators for home care in China. Int J Qual Health Care. 2018;30:208-218, and Tang X, Ge S, Ma C and al. e. Evaluating the Quality of Home Care in China Using the Home Care Quality Assessment Tool. Journal of Transcultural Nursing. 2021;32:173-179.

- **Influence and enough time in home services, risk prevention measures for malnutrition, risk prevention measures for pressure ulcers, risk prevention measures for impaired oral health, an updated care plan:** www.socialstyrelsen.se/statistik-och-data/oppna-jamforelser/socialtjanst/aldreomsorg/, and Sweden's Municipalities and the County Council and the National Board of Health and Welfare. 2018. Open comparisons 2017. Care for the elderly. Comparisons between municipalities and counties. https://webbutik.skl.se/sv/artiklar/oppna-jamforelser-vard-och-omsorg-om-aldre-2017.html.

- **Discharge to community:** https://cmit.cms.gov/CMIT_public/ViewMeasure?MeasureId=181#tab1.

References for chapter six: Weight loss, malnutrition and dehydration

- Alibhai SM, Greenwood C, Payette H. An approach to the management of unintentional weight loss in elderly people. CMAJ 2005;172:773-80.

References

- Banks M, Ash S, Bauer J, Gaskill D. Prevalence of malnutrition in adults in Queensland public hospitals and residential aged care facilities. Nutr Diet 2007;64:172-8.

- Dorner B. Practice Paper of the American Dietetic Association: Individualized Nutrition Approaches for Older Adults in Health Care Communities. J Am Dietetic Assoc 2010;110:1554-63.

- Gaddey HL, Holder K. Unintentional weight loss in older adults. Am Fam Physician 2014;89:718-22.

- Miller HJ. Dehydration in the older adult. J Gerontol Nursing 2015;41:8-13.

- Rasheed S, Woods RT. Malnutrition and quality of life in older people: a systematic review and meta-analysis. Ageing research reviews 2013;12:561-6.

- Volkert D, Beck AM, Cederholm T, et al. Management of malnutrition in older patients-current approaches, evidence and open questions. J Clin Med 2019;8:974-80.

- Wotton K, Rannitch K, Munt R. Prevalence, risk factors and strategies to prevent dehydration in older adults. Comtemp Nurse 2008;31:16-9.

References for specific quality indicators

- **Maintaining nutritional status, prevention of dehydration:** Igarashi A, et al. Quality Assurance in Long-Term Care and Development of Quality Indicators for Japan. Gerontol Geriatr Med. 2020 6:1-8. https://doi.org/10.1177/2333721420975320, and Fukui C, Igarashi A, Noguchi-Watanabe M, et al. Development of quality indicators for evaluating the quality of long-term care. Geriatr Gerontol Int. 2021 1-2. https://doi.org/10.1177/233372.

- **Weight loss and malnutrition:** Inacio MC, Lang C, Caughey GE, Bray SCE, Harrison SL, Whitehead C, Visvanathan R, Evans K, Corlis M, Cornell V, Wesselingh S. The Registry of Senior Australians outcome monitoring system: quality and safety indicators for residential aged care. Int J Qual Health Care. 2020 Nov 9;32(8):502-510. doi: 10.1093/intqhc/mzaa078. PMID: 32696038, and Caughey GE, Lang C, Bray S, Whitehead C, Visvanathan R, Evans K, Corlis M, Cornell V, Wesselingh S, Inacio MC. Development and Prevalence of Quality and Safety Indicators for Home Care Recipients in Australia. Submitted BMJ Quality and Safety. 2021.

- **Weight loss:** https://secure.cihi.ca/free_products/hcrs-ca-output-specifications-manual-2021-2022-en.pdf, and https://indicatorlibrary.cihi.ca/display/HSPIL/Wait+Times+for+Home+Care+Services, and https://secure.cihi.ca/free_products/HCRS-Data-Submission-Specs-2017-2018-EN.pdf, and https://indicatorlibrary.cihi.ca/display/HSPIL/Caregiver+DistressCanadian Institute for Health Information, and Home Care Reporting System – Contact Assessment: Output Specifications, 2021-2022. Ottawa, ON: CIHI; 2021.

- **Weight loss:** Foebel AD, van Hout HP, van der Roest HG, et al. Quality of care in European home care programs using the second generation interRAI Home Care Quality Indicators (HCQIs). BMC Geriatr. 2015;15:148. Published 2015 Nov 14. doi:10.1186/s12877-015-0146-5, and Morris, J.N., Fries, B.E., Frijters, D. et al. interRAI home care quality indicators. BMC Geriatr 13, 127 (2013). https://doi.org/10.1186/1471-2318-13-127.

- **Dehydration:** Wagner A, Zúñiga F, Rüesch P, Schaffert R, Dratva J, on behalf of the HCD Research Group (2020) Selecting home care quality indicators based on the Resident Assessment Instrument-Home Care (RAI-HC) for Switzerland: A public health and healthcare providers' perspective. PLoS ONE 15(12): e0244577. https://doi.org/10.1371/journal.pone.0244577, and Burla L, Schaffert R, Mylaeus M and Rüesch P. Developing and testing quality indicators in home care in Switzerland. Public Health Service. 2010;72:106-113, and Vincent C and Staines A. Enhancing the quality and safety of Swiss healthcare. www.bag.admin.ch › bag › qualitaetssicherung. 2019.

References for chapter seven: Falls and major injuries

- Australian Institute of Health and Welfare. Australia's health 2018. Australia's health series no. 16. AUS 221. Canberra: AIHW. 2018.

- Australian Institute of Health and Welfare. Hip fracture incidence and hospitalisations in Australia 2015-16. Cat. no. PHE 226. Canberra: AIHW. 2018.

- Bentler SE, Liu L, Obrizan M, et al. The aftermath of hip fracture: discharge placement, functional status change, and mortality. Am J Epidemiol 2009; 170:1290-9.

References

- Bergen G, Stevens MR, Burns ER. Falls and fall injuries among adults aged ?65 years-United States, 2014. MMWR Morb Mortal Wkly Rep 2016; 65:993-8.

- Deandrea S, Bravi F, Turati F, et al. Risk factors for falls in older people in nursing homes and hospitals. A systematic review and meta-analysis. Arch Gerontol Geriatrics 2013; 56:407-15.

- Hartholt KA, van Beeck EF, Polinder S, et al. Societal consequences of falls in the older population: injuries, healthcare costs, and long-term reduced quality of life. J Trauma 2011; 71:748-53.

- Moller J. Projected costs of fall related injury to older persons due to demographic change in Australia. Report to the Commonwealth Department of Health and Ageing under the National Falls Prevention for Older People Initiative. Accessed Feb 17, 2010. 2003.

- Pasco JA, Sanders KM, Hoekstra FM, et al. The human cost of fracture. Osteoporos Int 2005; 16:2046-52.

- Verma SK, Willetts JL, Corns HL, Marucci-Wellman HR, Lombardi DA, Courtney TK. Falls and Fall-Related Injuries among Community-Dwelling Adults in the United States. PLOS ONE 2016; 11:e0150939.

- Woolcott JC, Richardson KJ, Wiens MO, et al. Meta-analysis of the impact of 9 medication classes on falls in elderly persons. Arch Intern Med 2009; 169:1952-60.

References for specific quality indicators

- **Prevention of fall with trauma:** Igarashi A, et al. Quality Assurance in Long-Term Care and Development of Quality Indicators for Japan. Gerontol Geriatr Med. 2020 6:1-8, https://doi.org/10.1177/2333721420975320, and Fukui C, Igarashi A, Noguchi-Watanabe M, et al. Development of quality indicators for evaluating the quality of long-term care. Geriatr Gerontol Int. 2021 1-2. https://doi.org/10.1177/233372.

- **Falls, fractures:** Inacio MC, Lang C, Caughey GE, Bray SCE, Harrison SL, Whitehead C, Visvanathan R, Evans K, Corlis M, Cornell V, Wesselingh S. The Registry of Senior Australians outcome monitoring system: quality and safety indicators for residential aged care. Int J Qual Health Care. 2020 Nov 9;32(8):502-510. doi: 10.1093/intqhc/mzaa078. PMID: 32696038, and Caughey GE, Lang C, Bray S, Whitehead C, Visvanathan R, Evans K, Corlis M, Cornell V, Wesselingh S, Inacio MC. Development and Prevalence of Quality and Safety Indicators for Home Care Recipients in Australia. Submitted BMJ Quality and Safety. 2021.

- **Falls, injuries and breaks:** https://secure.cihi.ca/free_products/hcrs-ca-output-specifications-manual-2021-2022-en.pdf, https://indicatorlibrary.cihi.ca/display/HSPIL/Wait+Times+for+Home+Care+Services https://secure.cihi.ca/free_products/HCRS-Data-Submission-Specs-2017-2018-EN.pdf, https://indicatorlibrary.cihi.ca/display/HSPIL/Caregiver+Distress, and Canadian Institute for Health Information. Home Care Reporting System – Contact Assessment: Output Specifications, 2021-2022. Ottawa, ON: CIHI; 2021.

- **Falls, injuries:** Foebel AD, van Hout HP, van der Roest HG, et al. Quality of care in European home care programs using the second generation interRAI Home Care Quality Indicators (HCQIs). BMC Geriatr. 2015;15:148. Published 2015 Nov 14. doi:10.1186/s12877-015-0146-5, and Morris, J.N., Fries, B.E., Frijters, D. et al. interRAI home care quality indicators. BMC Geriatr 13, 127 (2013). https://doi.org/10.1186/1471-2318-13-127.

- **Incidence or number of cases of falling out of bed, incidence or number of cases of falls, incidence or number of cases of new fractures:** Tang X, Chen X, Pang Y and Zhou L. The development of quality indicators for home care in China. Int J Qual Health Care. 2018;30:208-218, and Tang X, Ge S, Ma C and al. e. Evaluating the Quality of Home Care in China Using the Home Care Quality Assessment Tool. Journal of Transcultural Nursing. 2021;32:173-179.

- **Fall injuries among people 80 years and older, fractures of hip among people 65 years and older:** www.socialstyrelsen.se/statistik-och-data/oppna-jamforelser/socialtjanst/aldreomsorg/, and Sweden's Municipalities and the County Council and the National Board of Health and Welfare. 2018. Open comparisons 2017. Care for the elderly. Comparisons between municipalities and counties. https://webbutik.skl.se/sv/artiklar/oppna-jamforelser-vard-och-omsorg-om-aldre-2017.html.

- **Falls with major injury:** https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HomeHealthQualityInits/Home-Health-Quality-Measures, and Process measures: https://www.cms.gov/files/document/home-health-process-measures-table-oasis-d1-11-2019.pdf, and Outcome measures: https://www.cms.gov/files/document/home-health-outcome-measures-table-oasis-d1-11-2019.pdf, and Risk Adjustment: https://www.cms.gov/files/document/risk-adjustment-technicalspecifications508cfinal.pdf.

References for chapter eight: Pressure injury and skin integrity

- Caughey GE, C L, Bray S, et al. Development and Prevalence of Quality and Safety Indicators for Home Care Recipients in Australia. BMJ Qual Saf 2021;Submitted October 2021.

- Edsberg LE, Langemo D, Baharestani MM, Posthauer ME, Goldberg M. Unavoidable pressure injury: state of the science and consensus outcomes. J Wound Ostomy Continence Nurs 2014;41:313-34.

- European Pressure Ulcer Advisory Panel and National Pressure Ulcer Advisory Panel (NPUAP). International guideline prevention of pressure ulcers: quick reference guide, NPUAP, USA. 2009.

- European Pressure Ulcer Advisory Panel and National Pressure Ulcer Advisory Panel (NPUAP). Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline. 3rd edition. 2019. (Accessed October 4, 2021, at http://www.internationalguideline.com/static/pdfs/Quick_Reference_Guide-10Mar2019.pdf.)

- Gorecki C, Brown JM, Nelson EA, et al. Impact of pressure ulcers on quality of life in older patients: a systematic review. J Am Geriatr Soc 2009;57:1175-83.

- Rafiei H, Vanaki Z, Mohammadi E, Hosseinzadeh K. The Role of Family Caregivers in Pressure Injury Prevention Guidelines: A Scoping Review. Home Healthc Now 2021;39:253-60.

- Song YP, Shen HW, Cai JY, Zha ML, Chen HL. The relationship between pressure injury complication and mortality risk of older patients in follow-up: A systematic review and meta-analysis. Int Wound J 2019;16:1533-44.

References for specific quality indicators

- **Prevention of pressure ulcer:** Igarashi A, et al. Quality Assurance in Long-Term Care and Development of Quality Indicators for Japan. Gerontol Geriatr Med. 2020 6:1-8. https://doi.org/10.1177/2333721420975320, and Fukui C, Igarashi A, Noguchi-Watanabe M, et al. Development of quality indicators for evaluating the quality of long-term care. Geriatr Gerontol Int. 2021 1-2. https://doi.org/10.1177/233372.

- **Pressure injury:** Inacio MC, Lang C, Caughey GE, Bray SCE, Harrison SL, Whitehead C, Visvanathan R, Evans K, Corlis M, Cornell V, Wesselingh S. The Registry of Senior Australians outcome monitoring system: quality and safety indicators for residential aged care. Int J Qual Health Care. 2020 Nov 9;32(8):502-510. doi: 10.1093/intqhc/mzaa078. PMID: 32696038, and Caughey GE, Lang C, Bray S, Whitehead C, Visvanathan R, Evans K, Corlis M, Cornell V, Wesselingh S, Inacio MC. Development and Prevalence of Quality and Safety Indicators for Home Care Recipients in Australia. Submitted BMJ Quality and Safety. 2021.

- **Incidence or number of cases of new pressure ulcers:** Tang X, Chen X, Pang Y and Zhou L. The development of quality indicators for home care in China. Int J Qual Health Care. 2018;30:208-218, and Tang X, Ge S, Ma C and al. e. Evaluating the Quality of Home Care in China Using the Home Care Quality Assessment Tool. Journal of Transcultural Nursing. 2021;32:173-179.

- **Skin ulcer:** Wagner A, Zúñiga F, Rüesch P, Schaffert R, Dratva J, on behalf of the HCD Research Group (2020) Selecting home care quality indicators based on the Resident Assessment Instrument-Home Care (RAI-HC) for Switzerland: A public health and healthcare providers' perspective. PLoS ONE 15(12): e0244577. https://doi.org/10.1371/journal.pone.0244577, and Burla L, Schaffert R, Mylaeus M and Rüesch P. Developing and testing quality indicators in home care in Switzerland Public Health Service. 2010;72:106-113, and Vincent C and Staines A. Enhancing the quality and safety of Swiss healthcare. www.bag.admin.ch › bag › qualitaetssicherung. 2019.

- **Changes in skin integrity post-acute care:** Pressure ulcer/injury: https://cmit.cms.gov/CMIT_public/ViewMeasure?MeasureId=187#tab1.

References for chapter nine: Workforce

- Australian Government. Department of Health. 2020 Aged Care Workforce Census Report. https://www.health.gov.au/resources/publications/2020-aged-care-workforce-census. 2021.

- Australian Government. Department of Health. 2018. A MATTER OF CARE Australia's Aged Care Workforce Strategy Report of the Aged Care Workforce Strategy Taskforce.

References

- Royal Commission into Aged Care Quality and Safety. Final Report. Care, dignity and respect. Volume 1. Summary and Recommendations. https://agedcare.royalcommission.gov.au/sites/default/files/2021-03/final-report-volume-1_0.pdf. 2021.

References for specific quality indicators

- **The number of home nursing staff is reasonable, the qualifications of home staff meet the requirements, the quality rate of home care staff job training, sound rules and regulations about double-check before home visiting, emergency response capability of home care staff, developing and rehearsing emergency plan to cope with different emergency rescues in home environment, the percentage of qualified rehabilitation nursing, satisfaction rate among home care staff members, dismissal rate of home care nurses:** Tang X, Chen X, Pang Y and Zhou L. The development of quality indicators for home care in China. Int J Qual Health Care. 2018;30:208-218, and Tang X, Ge S, Ma C and al. e. Evaluating the Quality of Home Care in China Using the Home Care Quality Assessment Tool. Journal of Transcultural Nursing. 2021;32:173-179.

- **Attendance, trust and security in special housing, personal continuity within the home:** www.socialstyrelsen.se/statistik-och-data/oppna-jamforelser/socialtjanst/aldreomsorg/, and Sweden's Municipalities and the County Council and the National Board of Health and Welfare. 2018. Open comparisons 2017. Care for the elderly. Comparisons between municipalities and counties. https://webbutik.skl.se/sv/artiklar/oppna-jamforelser-vard-och-omsorg-om-aldre-2017.html.

References for chapter ten: Pain

- Abdulla A, Adams N, Bone M, et al. Guidance on the management of pain in older people. Age Ageing 2013;42 Suppl 1:i1-57. DOI: 10.1093/ageing/afs200.

- Blyth FM, March LM, Brnabic AJ, Jorm LR, Williamson M, Cousins MJ. Chronic pain in Australia: a prevalence study. Pain 2001;89:127-34.

- Abdulla A, Adams N, Bone M, et al. Guidance on the management of pain in older people. Age Ageing 2013;42 Suppl 1:i1-57.

- Barber JB, Gibson SJ. Treatment of chronic non-malignant pain in the elderly: safety considerations. Drug Saf 2009;32:457-74.

- Corbett A, Husebo B, Malcangio M, et al. Assessment and treatment of pain in people with dementia. Nat Rev Neurol 2012;8:264-74.

- Inacio MC, Visvanathan R, Lang C, et al. Pain in Older Australians Seeking Aged Care Services: Findings from the Registry of Older South Australians (ROSA). JAMDA 2020;21:132-3.

- Patel KV, Guralnik JM, Dansie EJ, Turk DC. Prevalence and impact of pain among older adults in the United States: findings from the 2011 National Health and Aging Trends Study. Pain 2013;154:2649-57.

- Reid MC, Eccleston C, Pillemer K. Management of chronic pain in older adults. BMJ 2015;350:h532.

- Risser A, Donovan D, Heintzman J, Page T. NSAID prescribing precautions. Am Family Physician 2009;80(12):1371-1388.

- Roxburgh A, Bruno R, Larance B, Burns L. Prescription of opioid analgesics and related harms in Australia. Med J Aust 2011;195(5):280-4. (https://www.ncbi.nlm.nih.gov/pubmed/21895598).

- Srinivasa N, et al. The Revised IASP definition of pain: concepts, challenges, and compromises Pain. 2020 Sep 1; 161(9): 1976-1982.

References for specific quality indicators

- **Coping with pain:** Igarashi A, et al. Quality Assurance in Long-Term Care and Development of Quality Indicators for Japan. Gerontol Geriatr Med. 2020 6:1-8. https://doi.org/10.1177/2333721420975320, and Fukui C, Igarashi A, Noguchi-Watanabe M, et al. Development of quality indicators for evaluating the quality of long-term care. Geriatr Gerontol Int. 2021 1-2. https://doi.org/10.1177/233372.

References

- **Pain-Inadequate medication, Daily pain:** https://secure.cihi.ca/free_products/hcrs-ca-output-specifications-manual-2021-2022-en.pdf, and https://indicatorlibrary.cihi.ca/display/HSPIL/Wait+Times+for+Home+Care+Services, and https://secure.cihi.ca/free_products/HCRS-Data-Submission-Specs-2017-2018-EN.pdf, and https://indicatorlibrary.cihi.ca/display/HSPIL/CaregiverDistressCanadian Institute for Health Information. Home Care Reporting System – Contact Assessment: Output Specifications, 2021-2022. Ottawa, ON: CIHI; 2021.

- **Pain not controlled, pain improvement, daily severe pain:** Foebel AD, van Hout HP, van der Roest HG, et al. Quality of care in European home care programs using the second generation interRAI Home Care Quality Indicators (HCQIs). BMC Geriatr. 2015;15:148. Published 2015 Nov 14. doi:10.1186/s12877-015-0146-5, and Morris, J.N., Fries, B.E., Frijters, D. et al. interRAI home care quality indicators. BMC Geriatr 13, 127 (2013). https://doi.org/10.1186/1471-2318-13-127.

- **Inadequate pain control, improvement of pain, daily severe pain:** Wagner A, Zúñiga F, Rüesch P, Schaffert R, Dratva J, on behalf of the HCD Research Group (2020) Selecting home care quality indicators based on the Resident Assessment Instrument-Home Care (RAI-HC) for Switzerland: A public health and healthcare providers' perspective. PLoS ONE 15(12): e0244577, and https://doi.org/10.1371/journal.pone.0244577, and Burla L, Schaffert R, Mylaeus M and Rüesch P. Developing and testing quality indicators in home care in Switzerland. Public Health Service. 2010;72:106-113, and Vincent C and Staines A. Enhancing the quality and safety of Swiss healthcare. www.bag.admin.ch › bag › qualitaetssicherung. 2019.

References for chapter eleven: Continence

- Australian Institute of Health and Welfare. Incontinence in Australia. Cat. no. DIS 61. Canberra: AIHW. 2013.

- Chiarelli P. Continence assessment in residential aged care. Aust J Ageing 2011;30:2-.

- Chiarelli PE, Mackenzie LA, Osmotherly PG. Urinary incontinence is associated with an increase in falls: a systematic review. Aust J Physiother 2009;55:89-95.

- Guinane J, Crone R. Faecal incontinence in older people in Australia and New Zealand: A narrative review. Aus NZ Cont J 2017;23:6-13.

- Guinane J, Crone R. Management of faecal incontinence. Aus J Gen Practitioners 2018;47:40-3.

- Lim D. Management of urinary incontinence in residential care. Aus Fam Physician 2016;45:498-502.

- Nakanishi N, Tatara K, Shinsho F, et al. Mortality in relation to urinary and faecal incontinence in elderly people living at home. Age Ageing 1999;28:301-6.

- Xu D, Kane R, Arling G. Relationship between nursing home quality indicators and potentially preventable hospitalisation. BMJ Qual Saf 2019;28:524-33.

References for specific quality indicators

- **Prevention of bladder/bowel problem:** Igarashi A, et al. Quality Assurance in Long-Term Care and Development of Quality Indicators for Japan. Gerontol Geriatr Med. 2020 6:1-8. https://doi.org/10.1177/2333721420975320, and Fukui C, Igarashi A, Noguchi-Watanabe M, et al. Development of quality indicators for evaluating the quality of long-term care. Geriatr Gerontol Int. 2021 1-2. https://doi.org/10.1177/233372.

- **Bladder continence:** https://secure.cihi.ca/free_products/hcrs-ca-output-specifications-manual-2021-2022-en.pdf, and https://indicatorlibrary.cihi.ca/display/HSPIL/Wait+Times+for+Home+Care+Services https://secure.cihi.ca/free_products/HCRS-Data-Submission-Specs-2017-2018-EN.pdf, and https://indicatorlibrary.cihi.ca/display/HSPIL/CaregiverDistressCanadian Institute for Health Information, and Home Care Reporting System – Contact Assessment: Output Specifications, 2021-2022. Ottawa, ON: CIHI; 2021.

- Bladder decline, bladder improvement: Foebel AD, van Hout HP, van der Roest HG, et al. Quality of care in European home care programs using the second generation interRAI Home Care Quality Indicators (HCQIs) BMC Geriatr. 2015;15:148. Published 2015 Nov 14. doi:10.1186/s12877-015-0146-5, and Morris, J.N., Fries, B.E., Frijters, D. et al. interRAI home care quality indicators. BMC Geriatr 13, 127 (2013). https://doi.org/10.1186/1471-2318-13-127.

- **Obstipation:** Wagner A, Zúñiga F, Rüesch P, Schaffert R, Dratva J, on behalf of the HCD Research Group (2020) Selecting home care quality indicators based on the Resident Assessment Instrument-Home Care (RAI-HC) for Switzerland: A public health and healthcare providers' perspective. PLoS ONE 15(12): e0244577.

References

https://doi.org/10.1371/journal.pone.0244577, and Burla L, Schaffert R, Mylaeus M and Rüesch P. Developing and testing quality indicators in home care in Switzerland. Public Health Service. 2010;72:106-113, and Vincent C and Staines A. Enhancing the quality and safety of Swiss healthcare. www.bag.admin.ch › bag › qualitaetssicherung. 2019.

- **Improvement in bowel incontinence:** https://cmit.cms.gov/CMIT_public/ViewMeasure?MeasureId=807#tab1 https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HomeHealthQualityInits/Home-Health-Quality-Measures Process measures: https://www.cms.gov/files/document/home-health-process-measures-table-oasis-d1-11-2019.pdf, and Outcome measures: https://www.cms.gov/files/document/home-health-outcome-measures-table-oasis-d1-11-2019.pdf Risk Adjustment: https://www.cms.gov/files/document/risk-adjustment-technicalspecifications508cfinal.pdf, and https://cmit.cms.gov/CMIT_public/ViewMeasure?MeasureId=2581#tab1, and https://cmit.cms.gov/CMIT_public/ViewMeasure?MeasureId=803#tab2.

References for chapter twelve: Hospitalisations (including emergency department presentations)

- Australian Government. Australian Institute of Health and Welfare. Potentially preventable hospitalisations in Australia by age groups and small geographic areas, 2017-18. 2019. (Accessed October 1, 2021, at https://www.aihw.gov.au/reports/primary-health-care/potentially-preventable-hospitalisations/contents/overview.)

- Fogg C, Griffiths P, Meredith P, Bridges J. Hospital outcomes of older people with cognitive impairment: An integrative review. Int J Geriatr Psychiatry 2018.

- Loyd C, Markland AD, Zhang Y, et al. Prevalence of Hospital-Associated Disability in Older Adults: A Meta-analysis. J Am Med Dir Assoc 2020;21:455-61 e5.

- MC I. Registry of Senior Australians. Report prepared by the Registry of Senior Australians for ECH Inc, July 2021. 2021.

- Pedone C, Ercolani S, Catani M, et al. Elderly patients with cognitive impairment have a high risk for functional decline during hospitalization: the GIFA Study. J Gerontol A Biol Sci Med Sci 2005;60:1576-80.

- Wolinsky FD, Bentler SE, Liu L, et al. Recent hospitalization and the risk of hip fracture among older Americans. J Gerontol A Biol Sci Med Sci 2009;64:249-55.

References for specific quality indicators

- **Prevention of hospital admission:** Igarashi A, et al. Quality Assurance in Long-Term Care and Development of Quality Indicators for Japan. Gerontol Geriatr Med. 2020 6:1-8. https://doi.org/10.1177/2333721420975320 Fukui C, Igarashi A, Noguchi-Watanabe M, et al. Development of quality indicators for evaluating the quality of long-term care. Geriatr Gerontol Int. 2021 1-2. https://doi.org/10.1177/233372.

- **Medication-related adverse events, emergency department presentation, delirium and/or dementia hospitalisations:** Inacio MC, Lang C, Caughey GE, Bray SCE, Harrison SL, Whitehead C, Visvanathan R, Evans K, Corlis M, Cornell V, Wesselingh S. The Registry of Senior Australians outcome monitoring system: quality and safety indicators for residential aged care. Int J Qual Health Care. 2020 Nov 9;32(8):502-510. doi: 10.1093/intqhc/mzaa078. PMID: 32696038, and Caughey GE, Lang C, Bray S, Whitehead C, Visvanathan R, Evans K, Corlis M, Cornell V, Wesselingh S, Inacio MC. Development and Prevalence of Quality and Safety Indicators for Home Care Recipients in Australia. Submitted BMJ Quality and Safety. 2021.

- **Hospitalisation (hospital, emergency department, emergent care):** https://secure.cihi.ca/free_products/hcrs-ca-output-specifications-manual-2021-2022-en.pdf, and https://indicatorlibrary.cihi.ca/display/HSPIL/Wait+Times+for+Home+Care+Services https://secure.cihi.ca/free_products/HCRS-Data-Submission-Specs-2017-2018-EN.pdf, and https://indicatorlibrary.cihi.ca/display/HSPIL/Caregiver+DistressCanadian Institute for Health Information. Home Care Reporting System – Contact Assessment: Output Specifications, 2021-2022. Ottawa, ON: CIHI; 2021.

- **Hospitalization and emergency department use:** Foebel AD, van Hout HP, van der Roest HG, et al. Quality of care in European home care programs using the second generation interRAI Home Care Quality Indicators (HCQIs). BMC Geriatr. 2015;15:148. Published 2015 Nov 14. doi:10.1186/s12877-015-0146-5, and Morris, J.N., Fries, B.E., Frijters, D. et al. interRAI home care quality indicators. BMC Geriatr 13, 127 (2013). https://doi.org/10.1186/1471-2318-13-127

- **Readmission rate:** Tang X, Chen X, Pang Y and Zhou L. The development of quality indicators for home care in China. Int J Qual Health Care. 2018;30:208-218, and Tang X, Ge S, Ma C and al. e. Evaluating the Quality of Home Care in China Using the Home Care Quality Assessment Tool. Journal of Transcultural Nursing. 2021;32:173-179.

- **Hospitalisation, emergency department presentation or emergent care:** Wagner A, Zúñiga F, Rüesch P, Schaffert R, Dratva J, on behalf of the HCD Research Group (2020) Selecting home care quality indicators based on the Resident Assessment Instrument-Home Care (RAI-HC) for Switzerland: A public health and healthcare providers' perspective. PLoS ONE 15(12): e0244577. https://doi.org/10.1371/journal.pone.0244577, and Burla L, Schaffert R, Mylaeus M and Rüesch P. Developing and testing quality indicators in home care in Switzerland. Public Health Service. 2010;72:106-113, and Vincent C and Staines A. Enhancing the quality and safety of Swiss healthcare. www.bag.admin.ch › bag › qualitaetssicherung. 2019.

- **Acute care hospitalisation during first 60 days of HH, emergency department use without hospitalisation during the first 60 days of HH, discharge to community and no unplanned acute hospitalisation or LTCH in 31 days after discharge, patients who had a potentially preventable 30 day post-discharge readmission:** https://cmit.cms.gov/CMIT_public/ViewMeasure?MeasureId=180#tab11, and https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HomeHealthQualityInits/Home-Health-Quality-Measures, and Process measures: https://www.cms.gov/files/document/home-health-process-measures-table-oasis-d1-11-2019.pdf, and Outcome measures: https://www.cms.gov/files/document/home-health-outcome-measures-table-oasis-d1-11-2019.pdf, and Risk Adjustment: https://www.cms.gov/files/document/risk-adjustment-technicalspecifications508cfinal.pdf.

References for chapter thirteen: Depression

- Inacio MC, Lang C, Bray SCE, et al. Health status and healthcare trends of individuals accessing Australian aged care programmes over a decade: the Registry of Senior Australians historical cohort. Intern Med J 2021;51:712-24.

- Australian Government. Aged Care Quality and Safety Commission. The Aged Care Quality Standards (Quality Standards). 2021. (Accessed September 25, 2021, at https://www.agedcarequality.gov.au/providers/standards.)

- Luppa M, Sikorski C, Luck T, et al. Age- and gender-specific prevalence of depression in latest-life--systematic review and meta-analysis. J Affect Disord 2012;136:212-21.

- Alexopoulos GS. Depression in the elderly. The Lancet 2005;365:1961-70.

- Kok RM, Reynolds CF, 3rd. Management of Depression in Older Adults: A Review. JAMA 2017;317:2114-22.

References for specific quality indicators

- **Mood decline:** https://secure.cihi.ca/free_products/hcrs-ca-output-specifications-manual-2021-2022-en.pdf, https://indicatorlibrary.cihi.ca/display/HSPIL/Wait+Times+for+Home+Care+Services, and https://secure.cihi.ca/free_products/HCRS-Data-Submission-Specs-2017-2018-EN.pdf, and https://indicatorlibrary.cihi.ca/display/HSPIL/Caregiver+DistressCanadian Institute for Health Information. Home Care Reporting System – Contact Assessment: Output Specifications, 2021-2022. Ottawa, ON: CIHI; 2021.

- **Mood improvement, Mood decline:** Foebel AD, van Hout HP, van der Roest HG, et al. Quality of care in European home care programs using the second generation interRAI Home Care Quality Indicators (HCQIs). BMC Geriatr. 2015;15:148. Published 2015 Nov 14. doi:10.1186/s12877-015-0146-5, and Morris, J.N., Fries, B.E., Frijters, D. et al. interRAI home care quality indicators. BMC Geriatr 13, 127 (2013). https://doi.org/10.1186/1471-2318-13-127.

References for chapter fourteen: Caregiver distress

- Australian Government. Australian Institute of Health and Welfare. Informal carers. 2021. (Accessed September 30, 2021, at https://www.aihw.gov.au/reports/australias-welfare/informal-carers.)

- Understanding the social and emotional needs of carers: Final report (SPRC Report 2/19). Sydney: Social Policy Research Centre. 2019. (Accessed September 30, 2021, at https://agedcare.royalcommission.gov.au/system/files/2020-06/RCD.9999.0131.0001.pdf.)

References for chapter fifteen: Medication related

- Australian Government Aged Care Quality and Safety Commission. Residential care sector performance, October-December 2019. Commonwealth of Australia; 2020.

- Australian Government Aged Care Quality and Safety Commission. Quality Use of Medicines and Medicines Safety Discussion Paper 2020.

- Australian Government Department of Health. Guiding principles for medication management in residential aged care facilities. Canberra: Commonwealth of Australia; 2012.

- Australian Government Department of Health. MBS Online. Commonwealth of Australia. (http://www.mbsonline.gov.au/).

- .Inacio MC, Lang C, Bray SCE, et al. Health status and healthcare trends of individuals accessing Australian aged care programmes over a decade: the Registry of Senior Australians historical cohort. Intern Med J 2021;51(5):712-724. DOI: 10.1111/imj.14871.

References for chapter sixteen: Wait times/system access

- Australian Government. Productivity Commission. Report on Government Services 2020. 14 Aged Care Services. (https://www.pc.gov.au/research/ongoing/report-on-government-services/2021/community-services/aged-care-services/rogs-2021-partf-section14-aged-care-services.pdf).

- McIntyre D, Chow CK. Waiting Time as an Indicator for Health Services Under Strain: A Narrative Review. Inquiry 2020;57:46958020910305. DOI: 10.1177/0046958020910305.

References for chapter seventeen: Behavioural symptoms

- Australian Government. Australian Institute of Health and Welfare. People's care needs in aged care. (https://www.gen-agedcaredata.gov.au/Topics/Care-needs-in-aged-care).

- Laver K, Cumming RG, Dyer SM, et al. Clinical practice guidelines for dementia in Australia. Med J Aust 2016;204(5):191-3. DOI: 10.5694/mja15.01339.

- Nazir A, Arling G, Perkins AJ, Boustani M. Monitoring quality of care for nursing home residents with behavioral and psychological symptoms related to dementia. J Am Med Dir Assoc 2011;12(9):660-7. DOI: 10.1016/j.jamda.2010.11.005.

- Westaway K, Sluggett J, Alderman C, Moffat A, Procter N, Roughead E. The extent of antipsychotic use in Australian residential aged care facilities and interventions shown to be effective in reducing antipsychotic use: A literature review. Dementia (London) 2020;19(4):1189-1202. DOI: 10.1177/1471301218795792.

References for chapter eighteen: Infection control

- Australian Government. Aged Care Quality and Safety Commission. The Aged Care Quality Standards (Quality Standards). (https://www.agedcarequality.gov.au/providers/standards).

- van Buul LW, van der Steen JT, Veenhuizen RB, et al. Antibiotic use and resistance in long term care facilities. JAMDA 2012;13:568 e1-13.

References for chapter nineteen: Cognition

- Australian Government. Aged Care Quality and Safety Commission. The Aged Care Quality Standards (Quality Standards). (https://www.agedcarequality.gov.au/providers/standards).

- Hirdes JP, van Everdingen C, Ferris J, et al. The interRAI Suite of Mental Health Assessment Instruments: An Integrated System for the Continuum of Care. Front Psychiatry 2019;10:926. DOI: 10.3389/fpsyt.2019.00926.

- Inacio MC, Lang C, Bray SCE, et al. Health status and healthcare trends of individuals accessing Australian aged care programmes over a decade: the Registry of Senior Australians historical cohort. Intern Med J 2021;51(5):712-724. DOI: 10.1111/imj.14871.

- Langa KM, Levine DA. The diagnosis and management of mild cognitive impairment: a clinical review. JAMA 2014;312(23):2551-2561.

- Livingston G, Huntley J, Sommerlad A, et al. Dementia prevention, intervention, and care: 2020 report of the Lancet Commission. Lancet 2020;396(10248):413-446. DOI: 10.1016/S0140-6736(20)30367-6.

- Petersen RC, Lopez O, Armstrong MJ, et al. Practice guideline update summary: Mild cognitive impairment: Report of the Guideline Development, Dissemination, and Implementation Subcommittee of the American Academy of Neurology. Neurology 2018;90(3):126-135. DOI: 10.1212/WNL.0000000000004826.

References for chapter twenty: Palliative care

- Australian Government. Department of Health. National Palliative Care Strategy 2018. (https://www.health.gov.au/sites/default/files/the-national-palliative-care-strategy-2018-national-palliative-care-strategy-2018.pdf).

- Australian Government. Aged Care Quality and Safety Commission. The Aged Care Quality Standards (Quality Standards). (https://www.agedcarequality.gov.au/providers/standards).

- Inacio MC, Lang C, Bray SCE, et al. Health status and healthcare trends of individuals accessing Australian aged care programmes over a decade: the Registry of Senior Australians historical cohort. Intern Med J 2021;51(5):712-724. DOI: 10.1111/imj.14871.

References for chapter twenty-one: Other clinical

- Australian Government. Aged Care Quality and Safety Commission. The Aged Care Quality Standards (Quality Standards). 2021. (Accessed September 25, 2021, at https://www.agedcarequality.gov.au/providers/standards.)

- Centers for Medicare and Medicaid Services. CMS Measure Inventory Tool. Improvement in Dyspnea. https://cmit.cms.gov/CMIT_public/ViewMeasure?MeasureId=187. 2020.

- Inacio MC, Lang C, Bray SCE, et al. Health status and healthcare trends of individuals accessing Australian aged care programmes over a decade: the Registry of Senior Australians historical cohort. Intern Med J 2021;51:712-24.

- Fortinsky RH, Madigan EA, Sheehan TJ, Tullai-McGuinness S, Fenster JR. Risk factors for hospitalization among Medicare home care patients. West J Nurs Res 2006;28:902-17.

References for chapter twenty-two: Mortality

Ibrahim JE, Ranson DL, Bugeja L. Premature deaths of nursing home residents: an epidemiological analysis. Med J Aust 2018;208(3):143. (In eng). DOI: 10.5694/mja17.00695.

Appendix B Evidence review methodology

Objective of the evidence review

The objective of the evidence review is to identify, assess and present the evidence base for quality of care domains and quality indicators suitable for application to in-home aged care. This evidence will inform consultations with stakeholders on the domains and quality indicators to take to pilot.

Process of evidence review

The process involved members of the PwC, UQ CHSR and ROSA consortium comprising of clinicians, measurement scientists and policy experts, to appraise and rank both domains of care and their associated quality indicators.

Note that the consortium members that were involved in the ranking process were exposed to the range of scores in aggregate form. An extensive discussion was conducted with a particular focus on areas of disagreement (ie where a member's score varied considerably from the group median score). After discussion, all members were offered the opportunity to rescore. Final scores were then collated to produce the final rankings.

The consortia members used a simplified Delphi technique to appraise the domains and quality indicators to secure consensus by undertaking the following steps:

1 **Define and agree on the analytic framework for the assessment of the domains and quality indicators for the project:** A detailed analytic framework review plan was developed outlining the criteria for domain inclusion, the assessment criteria for associated quality indicators and how domains and quality indicators will be ranked and prioritised (see next section of this appendix for details on ranking and prioritisation).

2 **Defined the literature review search parameters:** Working with the Department, a set of clear parameters for the evidence review and the format of the synthesis of the work was developed. A range of search strategies was used to conduct a targeted review of international and national quality indicators and domains for in-home aged care services. This involved review of academic literature and grey literature, including international government and relevant organisation reports and websites. The literature review was an update and extension of previous work conducted by the Department and consortium members, including Research Paper 8 from the Royal Commission into Aged Care Quality and Safety. The search parameters include:

   – Academic literature: Bibliographic sources of MEDLINE (Ovid) were searched using Medical Subject Headings [MeSH] and keywords (title and/or abstract [tiab])

     ◦ Quality Indicators, Health Care [MeSH] OR Quality Indicators, Health Care [tiab] OR quality measure [tiab] OR quality assessment [tiab] OR Healthcare quality indicator [tiab] OR Quality Indicators [tiab] OR quality indicator [tiab] OR health care quality [tiab] OR process assessment [tiab] OR treatment outcome [tiab] OR "quality of nursing care [tiab] OR care performance [tiab] OR care outcome [tiab]

     ◦ In-home aged care Services [MeSH] OR community care [tiab] OR in-home aged care services [tiab] OR in-home aged care service [tiab] OR domiciliary care [tiab] OR formal in-home aged care [tiab] OR district nursing [tiab] OR in-home aged care [tiab] OR domestic health care [tiab] OR domiciliary care [tiab] OR in-home aged care agencies [MeSH] OR in-home aged care agencies [tiab] OR Home Health Aides [MeSH]

   – Grey literature/Website Search: An internet search was conducted to search for relevant websites using the following keywords: "quality indicator, quality measure, quality in health care", AND "aged care, in-home aged care, nursing home, community aged care, community services", with the first 100 hits screened to maximise relevance.

   – Country specific government websites were searched including CMS (Centres for Medicare and Medicaid Services; www.cms.gov), Health Data.gov (www.healthdata.gov), NICE (National Institute for Health and Clinical Excellence; www.nice.org.uk), European Society for Quality in Health Care (www.edqm.eu), European Directorate for the Quality Use of Medicines & Healthcare (www.esqh.net) and Canadian Institute for Health Information (www.cihi.ca).

Reference lists of identified publications, reports and websites were also searched to identify relevant publications/sources of information.

3 **A scan of indicators and the domains was conducted:** An initial scan of all quality indicators was undertaken and then themed into quality of care domains. Identified domains were included in the report if they fulfilled the following criteria:

  – the domain and associated quality indicators are aimed at monitoring/improving the quality of in-home aged care services at the population level

  – data collection for quality indicators in the domain is population-based

  – quality indicators and reporting are current (last 10 years).

The initial scan formed the basis of the domain theming exercise undertaken by the consortia. It is noted that this was an iterative thematic review from which a total of 243 quality indicators from 14 countries were identified and thematically grouped into 19 quality care domains. A full listing of each of the domain is presented in Table 2.

4 **Extraction of data:** Key data was extracted and summarised from the identified studies, reports websites and include:

  – a general description of the indicators in place (country, name of indicator/system, domains,

  – description of the type of indicator (eg structural, process, outcome)

  – specifications of the indicator including numerator, denominator, exclusions, case-mix adjustment

  – type and frequency of data collection

  – framework/reporting of indicators (public reporting, facility-level reporting, rating systems)

  – employment of indicators (eg measure absolute performance, comparative performance, quality improvement, inform standards, care planning, payment)

  – recommended targets.

All indicators identified at this stage were logged into an Evidence Review Assessment Log.

5 **Assessment and ranking of the quality of care domains:** The range of quality of care domains within the literature for which there are existing quality indicators was identified. Quality of care domains were ranked by the consortium against the criteria and the standardised scoring scale of 1-9 outlined in Table 13 below (with one indicating disagreement with the criteria, and 9 indicating high agreement with the criteria).

Table 13: Domain ranking criteria and assessment rating scale

Review criteria	Assessment rating
There are high quality, evidence based quality indicators for the domain	Rate on scale 1 (disagree/low) to 9 (agree/high)
There is international agreement that the domain is important	Rate on scale 1 (disagree/low) to 9 (agree/high)
In-home aged care services can influence care and experiences of the domain	Rate on scale 1 (disagree/low) to 9 (agree/high)
The domain is important to monitor the delivery of high-quality care and consumer experience	Rate on scale 1 (disagree/low) to 9 (agree/high)

Quality indicators from the at least 10 of the highest ranked domains were then assessed in the next step of the review.

6 **Review and ranking of quality indicators against analytic framework criteria:** A bespoke set of criteria was developed for the project to guide the assessment of quality indicators. These have been developed using the US National Quality Forum "Measure Evaluation Criteria and Guidance for Evaluating Measures of Endorsement" as a basis but have been refined for use in the Australian aged care and quality indicator context. To develop the set of criteria, the team at ROSA reviewed eight quality indicator criteria assessments, that included a total of 10 domains. Three publications were identified which included a comparison of the assessment criteria. These criteria were developed for

health-related quality indicators and are not specific to the aged care settings but have been used for aged care quality indicator assessment. The criteria were then ranked in order according to the frequency by which they were included in each existing framework/reference (ie from most common to least common).

Two additional criteria were included 'Value to the QI Program' and 'Attribution' as important in the context of this project. The indicators were quantitatively ranked using a standardised scale of 1-9 on the criteria in Table 14.

Table 14: Criteria to assess quality indicators

Criteria	Description of components (refined for this project and relate to in-home aged care context)
Importance*	Is the concept important to measure?
	Is the indicator evidence-based?
	Does the concept apply to a significant proportion of the residents/consumers in the Australian aged care system?
Scientific Acceptability *	Are the indicators precisely defined?
	Is the data/information upon which it is based reliable?
	Does the indicator demonstrate face validity, construct validity, and predictive validity?
	Is there systematic bias and can that bias be addressed with an adjustment?
	Does the indicator detect meaningful differences in performance among and within services?
Feasibility*	Is the data collection and implementation feasible?
	Is there readily available data?
	Can the data be collected and/or the indicator scored with minimal burden?
Usability*	Is the indicator meaningful, understandable and useful to a range of audiences?
Value to QI Program	Monitoring this indicator can assist aged care services to measure, monitor, compare and improve the quality of their services
	Monitoring this indicator can provide older people with information about the quality of aged care services when they are making choices about their care
	Monitoring this indicator can provide the Government with information to support the quality of care across the system of aged care in Australia
Attribution	Is there an opportunity for improvement through the actions of the in-home aged care service?

*Criteria based on US NQF

Quality indicators from the top 10 ranked domains were assessed against each of the criteria descriptions and a rating applied. Ranking scores for each criteria was quantified into an aggregate score for that QI – allowing for an order of preference for the quality indicators in each domain to be achieved.

Table 15: Rating scale for assessment of indicators

Rating	Description
High (7-9)	Based on the information reviewed, there is high confidence that the criterion is met
Moderate (4-6)	Based on the information reviewed, there is moderate confidence that the criterion is met
Low (1-3)	Based on the information reviewed, there is low confidence that the criterion is met
Insufficient (10)	There is insufficient information available to assess whether the criterion has been met. This may include absent, incomplete, irrelevant, or non-specific information)

For each assessed indicator, the following information (if publicly available) was documented:

- domain to which the indicator relates

- definition of the quality indicator

- numerator: size of patient population the quality indicator would apply to

- the size of the population from which the numerator was derived from

- characteristics that would influence the inclusion/exclusion criteria of the indicator in the pilot

- how case mix adjustment will be applied to the quality indicator

- the data sources required to calculate the indicator and whether the data collection instruments are subject to licencing agreements

- how the quality indicator data would be collected and the frequency of the collection

- where the indicator is currently used (eg sector, country, or quality indicators system)

- recommended targets or benchmarks for the quality indicator

- key references for the indicator

- the assessment of the indicator against the agreed analytic framework criteria.

Prioritisation: Quality indicators for each domain were assessed against a prioritisation matrix. Indicators were prioritised based on their evidence and value given the objectives of the QI Program. Evidence' was a combined average of the scores for the first 5 criteria (feasibility, importance scientific acceptability, usability, attribution) and value to the QI Program was the average score for this criterion. Indicators were ranked based on their level of evidence and level of value to the QI Program to assist the final selection of indicators for further consultation and pilot testing.

Quality indicators were prioritised using a matrix that situates each quality indicator against the level of evidence and the value to the QI Program:

- value for the QI Program axis refers to the rating for quality indicators against the value in applying it to the Australian QI Program

- evidence based axis reflects the culminative assessment of the evidence based of the quality indicators based on the assessment criteria of importance, feasibility, scientific acceptance, usability, and attribution.

The aim was to prioritise quality indicators that demonstrate high value for application to the QI Program and high rating against the assessment criteria (see Figure 13) for recommendation to the Department.

Figure 13: Prioritisation matrix for the quality indicator evidence review
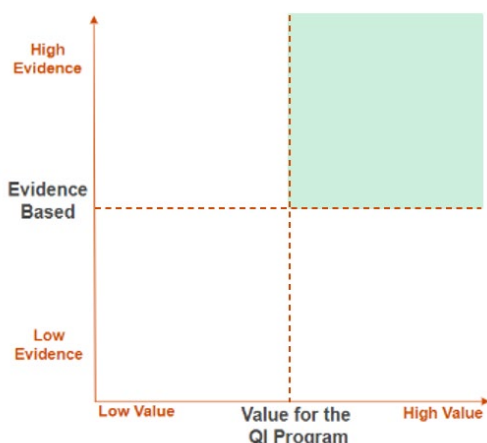
No quality indicator was 'ruled out' based on the data collection burden for in-home aged care services, licensing agreements, or other enablers or barriers to implementation.

Outputs of the prioritisation framework reflect the consortium's assessment of each quality indicator against the prioritisation matrix. Using this prioritisation matrix allowed the identification of the quality indicators (and their domains) that are most likely to be evidence based and of value to an expanded QI Program into in-home aged care services.

Appendix C   Ranked quality indicators performance characteristics

Table 16: Function and ADLs

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
1.1	Clients whose ability to perform daily activities (such as eating and bathing) decreased over the six months	This is the percentage of clients, of all ages, receiving publicly funded home care services for at least 60 days, whose ability to perform daily activities (such as eating and bathing) decreased over the last six months.	Canada[110]	Type of data collection: Data are based on information in Home Care Reporting System from mandatory Resident Assessment Instrument – Home Care (RAI-HC) assessments. Jurisdictions differ in their requirements for RAI-HC assessment frequency.	Daily activities bathing, personal hygiene and locomotion Decreased: Technical definition not publicly available	Numerator: The number of long-stay home care clients (ie clients who require care for more than 60 days of continuous service) whose status in Activities of Daily Living (ADL) (bathing, personal hygiene and locomotion) functioning was higher in their prior assessment than their target assessment Denominator: The number of home	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific	☑ RAI-HC	þ	☑ This indicator is risk adjusted. Adjustment Factors: Age ≥65, 12 Months or less between Assessments, Clinical Risk, Meal Prep Difficulty, Difficulty housework, Difficulty bathing, Falls, Unsteady gait, Admitted Hospitals, CPS, Number of Months between Assessments, ADL Hierarchy 2+, Age

---

[110] For Canadian based quality indicators identified in any domain, further information is available at
- https://indicatorlibrary.cihi.ca/display/HSPIL/Wait+Times+for+Home+Care+Services
- https://secure.cihi.ca/free_products/HCRS-Data-Submission-Specs-2017-2018-EN.pdf
- https://indicatorlibrary.cihi.ca/display/HSPIL/Caregiver+Distress

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						care clients with at least two consecutive assessments Reporting of QI: On-Line Public Reporting.	indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.			80, Institutional Risk, ADL Hierarchy 3+
1.2	Clients whose ADL functioning declined (bathing, personal hygiene, locomotion) (incidence)	Percentage of clients whose ADL functioning declined (bathing, personal hygiene, locomotion). Incidence indicator.	Canada	Type of data collection: RAI-HC or interRAI HC, collected by designated assessors, registered healthcare providers, who have received training on the administration of the tools. Frequency of data collection: 90 days.	ADL Functioning: bathing, personal hygiene, locomotion Declined: Technical definition not publicly available	Numerator: HC clients with worsened ADLs self-performance on their target assessment compared with their previous assessment. Denominator: All HC clients (must have target assessment and had an assessment 3-15 months prior). Reporting of QI: 90 days. HCRS based on 2 consecutive quarters (to ensure min number of assessments to apply risk adjustment procedures).	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.	☑ RAI-HC	þ	☑ Risk adjustment at individual client level (individual covariates) and home care organizational level (direct standardization) Stratified by ADL summary scale.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						Reporting of QI: On-Line Public Reporting. See https://www.cihi.ca /en/home-care for further information				
1.3	Clients with a score of less than 18 on the baseline ADL Long Form who decline further (incidence)	Proportion of HC clients with a score of less than 18 on the baseline ADL long form who decline further. Incidence indicator.	EU[111]	Type of data collection: Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected information that included direct interviews of home care clients and family members, as well as review of physician reports and	Technical definitions not publicly available.	Numerator: Number of HC clients with a score of less than 18 on the baseline ADL long form who decline further. Denominator: All HC clients with baseline impairment and assessments at both baseline and target assessment (at 6 months). Reporting of QI: Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients.	Information not available in public materials.	☑ RAI-HC European	ý	☑ Adjusted for: difficulty with meal preparation, housework and bathing, unsteady gait, Cognitive Performance Scale score, institutional risk, ADL hierarchy scale score. Stratification: IADL summary scale

---

[111] Information about quality indicators for European nations can be found in Foebel et al, 2015. https://bmcgeriatr.biomedcentral.com/articles/10.1186/s12877-015-0146-5

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				medical records. Frequency of data collection: 6 monthly.		https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12				
1.4	Clients with baseline impairment and a better score on the ADL Long Form (incidence)	Proportion of HC clients with baseline impairment and a better score on the ADL long form. Incidence indicator.	EU	Type of data collection: Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected information that included direct interviews of home care clients and family members, as well as review of physician reports and medical records.	Technical definitions of impairment and ADL are not publicly available.	Numerator: Number of HC clients with baseline impairment and a better score on the ADL long form. Denominator: All HC clients with baseline impairment and assessments at both baseline and target assessment (at 6 months). Reporting of QI: Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12"	Information not available in public materials.	☑ RAI-HC European	þ	☑ Adjusted for: not independent cognition, ADL decline, clinical risk, falls, hospitalizations, ADL hierarchy scale score. Stratification: IADL capacity scale score

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				Frequency of data collection: 6 monthly.						
1.5	Clients with a score of less than 15 on the IADL self-performance summary scale at baseline who declined (incidence)	Proportion of HC clients with a score less than 15 on the IADL self-performance summary scale at baseline who declined (had a higher score). Incidence indicator.	EU	Type of data collection: Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected information that included direct interviews of home care clients and family members, as well as review of physician reports and medical records. Frequency of data collection: 6 monthly.	Technical definitions of decline and ADL are not publicly available.	Numerator: Number of HC clients with a score less than 15 on the IADL self-performance summary scale at baseline who declined (had a higher score). Incidence indicator. Denominator: All HC clients with a IADL score less than 15 at baseline and both baseline and target assessment (at 6 months). Reporting of QI: Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12	Information not available in public materials.	☑ RAI-HC European	þ	☑ Adjusted for: difficulty with meal preparation and housework, institutional risk, ADL hierarchy scale score. Stratification: clinical risk.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
1.6	Clients with a score of less than 18 on the baseline IADL Scale who decline further (incidence)	Percentage of clients with a score of less than 18 on the baseline IADL declined. Incidence indicator.	Canada	RAI-HC or interRAI HC, collected by designated assessors, registered healthcare providers, who have received training on the administration of the tools. Frequency of data collection: 90 days.	IADL: Technical definition not publicly available Decline further: Technical definition not publicly available	Numerator: HC clients with worsened IADLs self-performance on their target assessment compared with their previous assessment. Denominator: All HC clients (must have target assessment and had an assessment 3-15 months prior). Reporting of QI: 90 days. HCRS based on 2 consecutive quarters (to ensure min number of assessments to apply risk adjustment procedures). Reported at National, Province/Territory level. Reporting. See https://www.cihi.ca/en/home-care for further information	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.	☑ RAI-HC	þ	☑ Risk adjustment at individual client level (individual covariates) and home care organizational level (direct standardization). Stratified by IADL summary scale.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
1.7	Clients who decline in independence since their last assessment	Prevalence of clients who have a decline in independence since last assessment	Switzerland	Swiss RAI-HC data are measured within a 90-day period at entry to home care services (baseline) and calculated six monthly unless there is a significant clinical change.	Definitions of decline and independence not publicly available.	Numerator: not available Denominator: not available Reporting of QI: The Swiss RAI-HC QIs only used for internal quality management in non-profit home care organisations and there are no national standards for home care. No cantonal (regions) or national agencies are collecting this data or publicly report on quality of care indicators.	Information not publicly available	☑ Swiss RAI-HC	☑ change.	☒
1.8	Clients with a score greater than 0 on the IADL self-performance summary scale at baseline who experience an improvement (incidence)	Proportion of HC clients with a score greater than 0 on the IADL self-performance summary scale at baseline who experience an improvement (lower score). Incidence indicator.	EU	Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected	Technical definitions of decline and ADL are not publicly available.	Numerator: Number of HC clients with a score greater than 0 on the IADL self-performance summary scale at baseline who experience an improvement (lower score). Incidence indicator.	Information not available in public materials.	☑ RAI-HC European	þ	☑ Adjusted for: sadness, ADL decline. Stratification: clinical risk."

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				information that included direct interviews of home care clients and family members, as well as review of physician reports and medical records. Frequency of data collection: 6 monthly."		Denominator: All HC clients with a IADL score greater than 0 at baseline and both baseline and target assessment (at 6 months). Reporting of QI: Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12				
1.9	Clients who do not have an assistive device and have difficulty in mobility	Prevalence of clients who do not have an assistive device and have difficulty in mobility	Switzerland	Swiss RAI-HC data are measured within a 90-day period at entry to home care services (baseline) and calculated six monthly unless there is a significant clinical change.	Technical definitions of terms not available	Numerator: not available Denominator: not available Reporting of QI: The Swiss RAI-HC QIs only used for internal quality management in non-profit home care organisations and there are no	Information not publicly available	☑ Swiss RAI-HC	☒	☒

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						national standards for home care. No cantonal (regions) or national agencies are collecting this data or publicly report on quality of care indicators.				
1.10	Clients with impaired mobility within their home (incidence)	Incidence of clients with impaired mobility within home	Switzerland	Swiss RAI-HC data are measured within a 90-day period at entry to home care services (baseline) and calculated six monthly unless there is a significant clinical change.	Technical definitions of terms not available	Numerator: not available Denominator: not available Reporting of QI: The Swiss RAI-HC QIs only used for internal quality management in non-profit home care organisations and there are no national standards for home care. No cantonal (regions) or national agencies are collecting this data or publicly report on quality of care indicators.	Information not publicly available	☑ Swiss RAI-HC	☒	☒
1.11	Patient improvement in ability to ambulate	Percentage of home health quality episodes of care during which the	United States	OASIS based measures. (Outcome Assessment Information Set	Technical definitions of terms such as ambulate are not available in	Numerator: Number of home health quality episodes of care where the value	Applicable to all home care consumers expect those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is	þ	þ	☑ Adjusted for where appropriate: age, sex, payment

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
		patient improved in ability to ambulate.	USA[112]	(OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date.	public information.	recorded on the discharge assessment indicates less impairment in ambulation/locomotion at discharge than at start (or resumption) of care. Denominator: Number of home health quality episodes of care ending with a discharge during the reporting period, other than those covered by generic or measure-specific exclusions. Reporting of QI: 90 days. Home Health Quality Reporting (CMS and providers). Home Health Compare (CMS, providers and	paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement.			source, care start/admission source, risk of hospitalisation, available assistance, clinical factors (pain, pressure ulcer, stasis ulcer, dyspnoea, urinary status, bowel incontinence, cognitive function, anxiety, confusion, depression screening, behavioural symptoms), ADLs, medication management, supervision/safety assistance, health condition diagnoses.

---

[112] Further information regarding USA quality indicators is available at https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HomeHealthQualityInits/Home-Health-Quality-Reporting-Requirements and for individual indicators see https://cmit.cms.gov/CMIT_public/ListMeasures

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						publicly reported), and is part of the 5 star quality rating (CMS, providers and publicly reported online includes 7 QIs).				
1.12	Patient who improved or stayed the same in their ability to bathe	Percentage of home health quality episodes of care during which the patient improved or stayed the same in the ability to bathe.	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date.	Technical definitions of terms are not available in public information.	Numerator: Number of home health quality episodes of care where the value recorded on the discharge assessment indicates the same or less impairment in bathing at discharge than at start (or resumption) of care. Denominator: Number of home health quality episodes of care ending with a discharge during the reporting period, other than those covered by generic or measure-specific exclusions.	Applicable to all home care consumers expect those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement.	þ	þ	☑ Adjusted for where appropriate: age, sex, payment source, care start/admission source, risk of hospitalisation, available assistance, clinical factors (pain, pressure ulcer, stasis ulcer, dyspnoea, urinary status, bowel incontinence, cognitive function, anxiety, confusion, depression screening, behavioural symptoms), ADLs, medication management, supervision/safety assistance, health condition diagnoses.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						Reporting of QI: 90 days. Home Health Quality Reporting (CMS and providers)				
1.13	Patients who improve in self-bathing	Percentage of home health quality episodes of care during which the patient got better at bathing self.	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date.	Technical definitions of terms are not available in public information.	Numerator: Number of home health quality episodes of care where the value recorded on the discharge assessment indicates less impairment in bathing at discharge than at start (or resumption) of care. Denominator: Number of home health quality episodes of care ending with a discharge during the reporting period, other than those covered by generic or measure-specific exclusions. Reporting of QI: 90 days.	Applicable to all home care consumers expect those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement.	þ	þ	☑ Adjusted for where appropriate: age, sex, payment source, care start/admission source, risk of hospitalisation, available assistance, clinical factors (pain, pressure ulcer, stasis ulcer, dyspnoea, urinary status, bowel incontinence, cognitive function, anxiety, confusion, depression screening, behavioural symptoms), ADLs, medication management, supervision/safety assistance, health condition diagnoses.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						Home Health Quality Reporting (CMS and providers). Home Health Compare (CMS, providers and publicly reported), and is part of the 5 star quality rating (CMS, providers and publicly reported online includes 7 QIs).				
1.14	Patients who improve or stay the same in their ability to get in and out of bed	Percentage of home health episodes of care during which the patient improved or stayed the same in ability to get in and out of bed.	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date.	Technical definitions of terms are not available in public information.	Numerator: Number of home health episodes of care where the value recorded on the discharge assessment indicates the same or less impairment in bed transferring at discharge than at start (or resumption) of care. Denominator: Number of home health episodes of care ending with a discharge during the reporting period, other than those covered by	Applicable to all home care consumers expect those who are receiving only non-skilled services. For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement.	þ	þ	☒

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						generic or measure-specific exclusions. Reporting of QI: 90 days. Home Health Quality Reporting (CMS and providers)				
1.15	Patients who improved in their ability to get in and out of bed	Percentage of home health quality episodes of care during which the patient improved in ability to get in and out of bed.	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date.	Technical definitions of terms are not available in public information.	Numerator: Number of home health quality episodes of care where the value recorded on the discharge assessment indicates less impairment in bed transferring at discharge than at start (or resumption) of care. Denominator: Number of home health quality episodes of care ending with a discharge during the reporting period, other than those covered by generic or	Applicable to all home care consumers expect those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement.	þ	þ	☑ Adjusted for where appropriate: age, sex, payment source, care start/admission source, risk of hospitalisation, available assistance, clinical factors (pain, pressure ulcer, stasis ulcer, dyspnoea, urinary status, bowel incontinence, cognitive function, anxiety, confusion, depression screening, behavioural symptoms), ADLs, medication management, supervision/safety assistance, health

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						measure-specific exclusions. Reporting of QI: 90 days. Home Health Quality Reporting (CMS and providers). Home Health Compare (CMS, providers and publicly reported), and is part of the 5 star quality rating (CMS, providers and publicly reported online includes 7 QIs).				condition diagnoses.
1.16	Patients who improved in their ability to get to and from and on and off the toilet	Percentage of home health quality episodes of care during which patients improved in ability to get to and from and on and off the toilet.	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period	Technical definitions of terms are not available in public information.	Numerator: Number of home health quality episodes of care where the value recorded on the discharge assessment indicates the same or less impairment in bathing at discharge than at start (or resumption) of care. Denominator: Number of home	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement.	þ	þ	☒

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				beginning with the start of care date.		health quality episodes of care ending with a discharge during the reporting period, other than those covered by generic or measure-specific exclusions. Reporting of QI: 90 days. Home Health Quality Reporting (CMS and providers)				
1.17	Clients who have rehabilitation potential and do not receive therapy	Prevalence of clients who have rehabilitation potential and do not receive therapy	Switzerland	Swiss RAI-HC data are measured within a 90-day period at entry to home care services (baseline) and calculated six monthly unless there is a significant clinical change.	Technical definitions of terms not available	Numerator: not available Denominator: not available Reporting of QI: The Swiss RAI-HC QIs only used for internal quality management in non-profit home care organisations and there are no national standards for home care. No cantonal (regions) or national agencies are collecting this data or publicly	Information not publicly available	☑ Swiss RAI-HC	☒	☒

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						report on quality of care indicators.				
1.18	Patients who improve or stay the same in ability to manage toileting hygiene	Percentage of home health quality episodes of care during which patients improved or stayed the same in ability to manage toileting hygiene.	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date.	Technical definitions of terms are not available in public information.	Numerator: Number of home health quality episodes of care where the discharge assessment indicates the same or less impairment in toileting hygiene at discharge than at start/resumption of care. Denominator: Number of home health quality episodes of care ending with a discharge during the reporting period, other than those covered by generic or measure-specific exclusions. Reporting of QI: 90 days. Home Health Quality Reporting (CMS and providers)	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	þ	þ	☒

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
1.19	Patients who improve or stay the same in their ability to get to and from and on and off the toilet	Percentage of home health quality episodes of care during which patients improved or stayed the same in ability to get to and from and on and off the toilet.	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date.	Technical definitions of terms are not available in public information.	Numerator: Number of home health quality episodes of care where the value recorded on the discharge assessment indicates the same or less impairment in getting to and from and on and off the toilet at discharge than at start (or resumption) of care. Denominator: Number of home health quality episodes of care ending with a discharge during the reporting period, other than those covered by generic or measure-specific exclusions. Reporting of QI: 90 days. Home Health Quality Reporting (CMS and providers)	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	þ	þ	☒

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
1.20	Patients who improve or stay the same in ability to groom self	Percentage of home health quality episodes of care during which patients improved or stayed the same in ability to groom self.	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date.	Technical definitions of terms are not available in public information.	Numerator: Number of home health quality episodes of care where the value recorded on the discharge assessment indicates the same or less impairment in grooming themselves at discharge than at start (or resumption) of care. Denominator: Number of home health quality episodes of care ending with a discharge during the reporting period, other than those covered by generic or measure-specific exclusions. Reporting of QI: 90 days. Home Health Quality Reporting (CMS and providers)	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	þ	þ	☑ Yes. Adjusted for where appropriate: age, sex, payment source, care start/admission source, risk of hospitalisation, available assistance, clinical factors (pain, pressure ulcer, stasis ulcer, dyspnoea, urinary status, bowel incontinence, cognitive function, anxiety, confusion, depression screening, behavioural symptoms), ADLs, medication management, supervision/safety assistance, health condition diagnoses.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
1.21	Patients who improve in their ability to dress lower body	Percentage of home health quality episodes of care during which patients improved in ability to dress lower body.	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date.	Technical definitions of terms are not available in public information.	Numerator: Number of home health quality episodes of care where the value recorded on the discharge assessment indicates less impairment in dressing their lower body at discharge than at start (or resumption) of care. Denominator: Number of home health quality episodes of care ending with a discharge during the reporting period, other than those covered by generic or measure-specific exclusions. Reporting of QI: 90 days. Home Health Quality Reporting (CMS and providers)	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	þ	þ	☒

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
1.22	Patients who improve in their ability to dress upper body	Percentage of home health quality episodes of care during which patients improved in ability to dress upper body.	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date.	Technical definitions of terms are not available in public information.	Numerator: Number of home health quality episodes of care where the value recorded on the discharge assessment indicates less impairment in dressing their upper body at discharge than at start (or resumption) of care. Denominator: Number of home health quality episodes of care ending with a discharge during the reporting period, other than those covered by generic or measure-specific exclusions. Reporting of QI: 90 days. Home Health Quality Reporting (CMS and providers)	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	þ	þ	☑ Yes. Adjusted for where appropriate: age, sex, payment source, care start/admission source, risk of hospitalisation, available assistance, clinical factors (pain, pressure ulcer, stasis ulcer, dyspnoea, urinary status, bowel incontinence, cognitive function, anxiety, confusion, depression screening, behavioural symptoms), ADLs, medication management, supervision/safety assistance, health condition diagnoses.

Table 17: Delivery and Care Plans

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
2.1	Clients involved in developing their home care plan	This is the percentage of publicly funded home care clients, of all ages, who agreed or disagreed (on a 5 point Likert scale) that they felt involved in developing their home care plan.	Canada	Client and Caregiver Experience Evaluation (CCEE) Survey is intended to be an ongoing evaluation tool, with four sample waves conducted annually in each region. The survey population comprises individuals who have received publicly funded home care services. Both active and discharged clients are included in the survey population.	Technical definitions not publicly available	Numerator: The number of respondents who responded, given a five point Likert scale (strongly agreed, somewhat agreed, neither agreed nor disagreed, somewhat disagreed, or strongly disagreed) to the survey question: "Thinking about the planning of your care, please tell me whether you agree or disagree with the following statements: I felt involved in developing my plan. Denominator: The number of total responses to the statement Reporting of QI: On-Line Public Reporting, Public Reports (annual	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.	☑ RAI-HC	☒	☒

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						report, bulletins, and theme reports)				
2.2	Client input into assistance, ability to influence care times, staff ability to carry out work in required timeframe	Percentage of older HC people who answered positively to the three questions a. Do the staff take into account your views and wishes on how the assistance should be performed? b. Are you usually able to influence at what times the staff come? c. Do the staff have enough time to be able to carry out their work with you?	Sweden	Data collected by the municipalities yearly, derived from national surveys, administrative data, and registries. National surveys: NBHW survey – What do the elderly think about elderly care? (from municipalities and counties) Official statistics (administrative data): Register of Social Services Interventions for the Elderly and Persons with Disability, Patient Register, Register of Medicines	Technical definitions of terms are not available in public domain.	Calculation methods not known Reporting of QI: Publicly annually at municipal level, county level and state. (Open Comparisons report annually online) showing providers' quality of care to the elderly based on the quality indicators along with grading of their performance. A relative comparison between municipalities is provided using a traffic light system.	No information publicly available.	Unknown	☒	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				National quality registers: Senior Alert Registry, Swedish Palliative Registry, Dementia Register, Registry on Behaviour and Psychiatric Symptoms.						
2.3	Clients with an updated care plan	Proportion of clients with an updated care plan	Sweden	Data collected by the municipalities yearly, derived from national surveys, administrative data, and registries. National surveys: NBHW survey – What do the elderly think about elderly care? (from municipalities and counties) Official statistics (administrative data): Register of Social	Technical definitions of terms are not available in the public domain.	Calculation methods not known Reporting of QI: Publicly annually at municipal level, county level and state. (Open Comparisons report annually online) showing providers' quality of care to the elderly based on the quality indicators along with grading of their performance. A relative comparison between municipalities is	No information publicly available	Unknown	☒	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				Services Interventions for the Elderly and Persons with Disability, Patient Register, Register of Medicines		provided using a traffic light system.				
				National quality registers: Senior Alert Registry, Swedish Palliative Registry, Dementia Register, Registry on Behaviour and Psychiatric Symptoms.						
2.4	Safety incidents related to missed or late home care visits	Safety incidents among older people related to missed or late home care visits.	UK	Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by local councils) from which the social care-related quality of life	Technical definitions of terms are not available in the public domain.	Calculation methods not known Beyond the information made available to local authorities/regulators, relatively little information about the quality of individual home care in UK is	No information publicly available	Unknown	☒	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				(SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).		made available to the public.				
2.5	Clients with care plans that identify how their personal priorities and outcomes will be met	Proportion of older people using home care services whose home care plan identifies how their personal priorities and outcomes will be met	UK	Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by local councils) from which the social care-related quality of life (SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).	Technical definitions of terms are not available in the public domain.	Calculation methods not known

Beyond the information made available to local authorities/ regulators, relatively little information about the quality of individual home care in UK is made available to the public. | No information publicly available | Unknown | ☒ | Unknown |
| 2.6 | Clients whose home care plan includes their personal priorities and outcomes | Proportion of older people using home care services whose home care plan includes their personal | UK | Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by | Technical definitions of terms are not available in the public domain. | Calculation methods not known

Beyond the information made available to local authorities/ regulators, relatively little | No information publicly available | Unknown | ☒ | Unknown |

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	priorities and outcomes			local councils) from which the social care-related quality of life (SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).		information about the quality of individual home care in UK is made available to the public.				
2.7	Evidence of process to ensure home care plans identify how personal priorities and outcomes of clients will be met	Evidence of local processes to ensure that home care plans for older people identify how their personal priorities and outcomes will be met.	UK	Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by local councils) from which the social care-related quality of life (SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).	Technical definitions of terms are not available in the public domain.	Calculation methods not known Beyond the information made available to local authorities/ regulators, relatively little information about the quality of individual home care in UK is made available to the public.	No information publicly available	Unknown	☒	Unknown
2.8	Clients who have a review of the outcomes of	Proportion of older people using home care services	UK	Data is collected locally. Many of the QIs are	Technical definitions of terms are not	Calculation methods not known	No information publicly available	Unknown	☒	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	their home care plan within a year of their previous review	who have a review of the outcomes of their home care plan within a year of their previous review.		derived from the adult social care survey (conducted annually by local councils) from which the social care-related quality of life (SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).	available in the public domain.	Beyond the information made available to local authorities/ regulators, relatively little information about the quality of individual home care in UK is made available to the public.				
2.9	Evidence of process to ensure clients have a review of the outcomes of their home care plan at least annually	Evidence of local processes to ensure that older people using home care services have a review of the outcomes of their home care plan at least annually.	🇬🇧 UK	Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by local councils) from which the social care-related quality of life (SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).	Technical definitions of terms are not available in the public domain.	Calculation methods not known Beyond the information made available to local authorities/ regulators, relatively little information about the quality of individual home care in UK is made available to the public.	No information publicly available	Unknown	☒	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
2.10	Clients who have a review of the outcomes of their home care plan within 6 weeks of the service starting	Proportion of older people using home care services who have a review of the outcomes of their home care plan within 6 weeks of the service starting	🇬🇧 UK	Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by local councils) from which the social care-related quality of life (SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).	Technical definitions of terms are not available in the public domain.	Calculation methods not known Beyond the information made available to local authorities/ regulators, relatively little information about the quality of individual home care in UK is made available to the public.	No information publicly available	Unknown	☒	Unknown
2.11	Evidence of process to ensure that clients have a review of the outcomes of their home care plan within 6 weeks of the service starting	Evidence of local processes to ensure that older people using home care services have a review of the outcomes of their home care plan within 6 weeks of starting to use the service.	🇬🇧 UK	Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by local councils) from which the social care-related quality of life (SCRQoL) tool is derived from	Technical definitions of terms are not available in the public domain.	Calculation methods not known Beyond the information made available to local authorities/ regulators, relatively little information about the quality of individual home care in UK is made available to the public.	No information publicly available	Unknown	☒	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				(adult social care outcomes toolkit, ASCOT-SCT4).						
2.12	Patients discharged to the community who do not have an unplanned admission to an acute care hospital or long-term care hospital in the following 31 days and remain alive	Percentage of home health stays in which patients were discharged to the community and do not have an unplanned admission to an acute care hospital or LTCH in the 31 days and remain alive in the 31 days following discharge to community.	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60-day period beginning with the start of care date.	Technical definitions of terms are not available in public information.	Numerator: Number of home health stays for patients who do not have an unplanned admission to an acute care hospital or LTCH in the 31-day post-discharge observation window, and who remain alive during the post-discharge observation window. Denominator: Number of home health stays that begin during the 2-year observation period. Reporting of QI: 90 days. Home Health Quality Reporting (CMS and providers)	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	☑	☒	☑ Adjusted for where appropriate: age, sex, payment source, care start/admission source, risk of hospitalisation, available assistance, clinical factors (pain, pressure ulcer, stasis ulcer, dyspnoea, urinary status, bowel incontinence, cognitive function, anxiety, confusion, depression screening, behavioural symptoms), ADLs, medication management, supervision/safety assistance, health condition diagnoses.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
2.13	Evidence of process to ensure clients have a home care plan that identifies how their provider will respond to missed or late visits	Evidence of local processes to ensure that older people using home care services have a home care plan that identifies how their home care provider will respond to missed or late visits.	🇬🇧 UK	Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by local councils) from which the social care-related quality of life (SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).	Technical definitions of terms are not available in the public domain.	Calculation methods not known

Beyond the information made available to local authorities/ regulators, relatively little information about the quality of individual home care in UK is made available to the public. | No information publicly available | Unknown | ☒ | Unknown |
| 2.14 | Planned home care visits that are missed | Proportion of planned home care visits for older people that are missed. | 🇬🇧 UK | Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by local councils) from which the social care-related quality of life (SCRQoL) tool is derived from | Technical definitions of terms are not available in the public domain. | Calculation methods not known

Beyond the information made available to local authorities/ regulators, relatively little information about the quality of individual home care in UK is made available to the public. | No information publicly available | Unknown | ☒ | Unknown |

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				(adult social care outcomes toolkit, ASCOT-SCT4).						
2.15	Clients with a chronic disease management plan	Proportion of HCP episodes where clients received a chronic disease management plan.	Australia[113]	Claims based data. Subsidised health service records (MBS).	Technical definitions of terms are not available in the public domain.	Numerator: Number of HCP episodes where eligible recipients had a chronic disease management plan (MBS Items 721, 723, 729, 732) Denominator: Number of HCP episodes Reporting of QI: To be published publicly annually at national level and provided privately to individual facilities at facility level (SA only). HCP episodes	Consumers on Home Care Packages	☑	☒	☑ Age, sex, number of comorbidities.
2.16	Clients that have a home care plan that identifies	Proportion of older people using home care services who have a	UK	Data is collected locally. Many of the QIs are derived from the	Technical definitions of terms are not available in the public domain.	Calculation methods not known Beyond the information made	No information publicly available	Unknown	☒	Unknown

---

113 For further information on ROSA derived quality indicators in Australia, please see Inacio et al, 2020 https://academic.oup.com/intqhc/article/32/8/502/5874335?login=true

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	how their provider will respond to missed or late visits	home care plan that identifies how their home care provider will respond to missed or late visits.		adult social care survey (conducted annually by local councils) from which the social care-related quality of life (SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).		available to local authorities/ regulators, relatively little information about the quality of individual home care in UK is made available to the public.				
2.17	Clients who receive home care with risk prevention measures for malnutrition	Percentage of older HC people who receive home care with risk prevention measures for malnutrition.	Sweden	Data collected by the municipalities yearly, derived from national surveys, administrative data, and registries. National surveys: NBHW survey – What do the elderly think about elderly care? (from municipalities and counties) Official statistics (administrative	Technical definitions of terms are not available online.	Calculation methods are not known Publicly annually at municipal level, county level and state. (Open Comparisons report annually online) showing providers' quality of care to the elderly based on the quality indicators along with grading of their performance. A relative comparison	No information publicly available	Unknown	☒	☒

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				data): Register of Social Services Interventions for the Elderly and Persons with Disability, Patient Register, Register of Medicines National quality registers: Senior Alert Registry, Swedish Palliative Registry, Dementia Register, Registry on Behaviour and Psychiatric Symptoms.		between municipalities is provided using a traffic light system.				
2.18	Visits of less than 30 minutes with a prior agreement that a shorter visit is acceptable	Proportion of home care visits to older people of less than 30 minutes with a prior agreement that a shorter visit is acceptable	UK	Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by local councils) from which the social care-	Technical definitions of terms are not available in the public domain.	Calculation methods not known Beyond the information made available to local authorities/ regulators, relatively little information about the quality of	No information publicly available	Unknown	☒	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				related quality of life (SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).		individual home care in UK is made available to the public.				
2.19	Evidence of process to ensure clients have visits of at least 30 minutes unless otherwise agreed for a specific reason	Evidence of local processes to ensure that older people using home care services have visits of at least 30 minutes except when short visits for specific tasks or checks have been agreed as part of a wider package of support.	UK	Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by local councils) from which the social care-related quality of life (SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).	Technical definitions of terms are not available in the public domain.	Calculation methods not known Beyond the information made available to local authorities/ regulators, relatively little information about the quality of individual home care in UK is made available to the public.	No information publicly available	Unknown	☒	Unknown
2.20	Clients who receive home care with risk prevention measures	Percentage of older HC people who receive home care with risk prevention measures for pressure ulcers.	Sweden	Data collected by the municipalities yearly, derived from national surveys, administrative	Technical definitions of terms are not available online.	Calculation methods are not known Publicly annually at municipal level, county level and	No information publicly available	Unknown	☒	☒

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	for pressure ulcers			data, and registries. National surveys: NBHW survey – What do the elderly think about elderly care? (from municipalities and counties) Official statistics (administrative data): Register of Social Services Interventions for the Elderly and Persons with Disability, Patient Register, Register of Medicines National quality registers: Senior Alert Registry, Swedish Palliative Registry, Dementia Register, Registry on Behaviour and		state. (Open Comparisons report annually online) showing providers' quality of care to the elderly based on the quality indicators along with grading of their performance. A relative comparison between municipalities is provided using a traffic light system.				

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				Psychiatric Symptoms.						
2.21	Visits lasting 30 minutes or longer	Proportion of home care visits to older people lasting 30 minutes or longer.	UK	Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by local councils) from which the social care-related quality of life (SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).	Technical definitions of terms are not available in the public domain.	Calculation methods not known. Beyond the information made available to local authorities/ regulators, relatively little information about the quality of individual home care in UK is made available to the public.	No information publicly available	Unknown	☒	Unknown
2.22	Clients who receive home care with risk prevention measures for impaired oral health	Percentage of older HC people who receive home care with risk prevention measures for impaired oral health.	Sweden	Data collected by the municipalities yearly, derived from national surveys, administrative data, and registries. National surveys: NBHW survey – What do the elderly	Technical definitions of terms are not available online.	Calculation methods are not known. Publicly annually at municipal level, county level and state. (Open Comparisons report annually online) showing providers' quality of care to the elderly based on	No information publicly available	Unknown	☒	☒

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				think about elderly care? (from municipalities and counties) Official statistics (administrative data): Register of Social Services Interventions for the Elderly and Persons with Disability, Patient Register, Register of Medicines National quality registers: Senior Alert Registry, Swedish Palliative Registry, Dementia Register, Registry on Behaviour and Psychiatric Symptoms.		the quality indicators along with grading of their performance. A relative comparison between municipalities is provided using a traffic light system.				

Table 18: Weight loss/Malnutrition/Dehydration

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
3.1	Clients who experienced weight loss	Percentage of clients who experienced weight loss.	Canada	90 days. RAI-HC or interRAI HC, collected by designated assessors, registered healthcare providers, who have received training on the administration of the tools	Weight Loss: 5% of more weight loss in last 30 days or 10% of more in last 180 days.	Numerator: Total number of HC clients who had 5% or more weight loss in last 30 days or 10% or more in last 180 days. Denominator: Total number of HC Clients Reporting of QI: 90 days. HCRS based on 2 consecutive quarters (to ensure min number of assessments to apply risk adjustment procedures). Reported at National, Province/Territory level.	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.	☑ RAI-HC	☑	☑ Risk adjustment at individual client level (individual covariates) and home care organizational level (direct standardization).
3.2	Clients with unintended weight loss at follow-up	Proportion of HC clients with any unintended weight loss at follow-up.	EU	6 monthly. Data collected using RAI-HC European but using 2nd generation	Technical definitions of unintended weight loss are not publicly available.	Numerator: Number of HC clients with any unintended weight loss at follow-up. Prevalence indicator.	Information not available in public materials.	☑ RAI-HC European	☑ 6-monthly	☑ Adjusted for: clinical risk.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected information that included direct interviews of home care clients and family members, as well as review of physician reports and medical records.		Denominator: All HC clients with a baseline and target assessment Reporting of QI: Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12"				
3.3	Clients with weight loss in the last 30 days	Weight loss in the last 30 days	Japan	Data collected by service providers (nurses or case managers) and client/family members in 30 day look back period. Further details unknown.	Technical definitions of terms are not available in the public domain.	Calculation details unknown.	Information not available in public materials.	Unknown	☑ 30-day lookback period	Unknown
3.4	Clients who present to Emergency	Proportion of HCP episodes where clients	Australia	Claims based data. (Hospitalisation	Technical definitions of terms are not	Numerator: Number of HCP episodes where a	Consumers on Home Care Packages	☑	☑	☑

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	Department or are hospitalised and weight loss or malnutrition were reported	had any emergency department presentation or hospitalisation, where weight loss or malnutrition were reported.		data (unplanned admissions and emergency department presentations). 12 monthly	available in the public domain.	client had a hospitalisation/ emergency department presentation for/with malnutrition/weight loss diagnoses (recorded in any of the discharge diagnoses). Denominator: Number of HCP episodes To be published publicly annually at national level and provided privately to individual facilities at facility level (SA only).				Age, sex, number of comorbidities
3.5	Clients with unintentional weight loss (client reported)	Proportion of unintentional weight loss (ie malnutrition) reported by the client.	Netherlands	Self-recording by care providers every year for all clients.	Technical definitions of terms are not available in the public domain	Calculation methods unknown Care providers' performance is monitored, and governments' accountability reports make information available to the public. Public reporting is mandatory and	No information in the public domain			Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						includes indicators of care effectiveness and safety and user experiences.				
3.6	Clients with dehydration	Prevalence of clients who are dehydrated	Switzerland	Swiss RAI-HC data are measured within a 90-day period at entry to home care services (baseline) and calculated six monthly unless there is a significant clinical change.	Technical definitions of terms are not publicly available.	Calculation methods not known. The Swiss RAI-HC QIs only used for internal quality management in non-profit home care organisations and there are no national standards for home care. No cantonal (regions) or national agencies are collecting this data or publicly report on quality of care indicators.	Information is not publicly available.	☑ Swiss RAI-HC	☒	☒
3.7	Clients with dehydration in the last 30 days	Dehydration in the last 30 days	Japan	Data collected by service providers (nurses or case managers) and client/family members in 30 day look back period. Further details unknown.	Technical definitions of terms are not publicly available.	Calculation details unknown.	Information not in the public domain	Unknown	☒	Unknown

Table 19: Falls and Major Injuries

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
4.1	Clients who fell	Percentage of clients who fell.	Canada	RAI-HC or interRAI HC, collected by designated assessors, registered healthcare providers, who have received training on the administration of the tools.	Fell/Fall: technical definition not publicly available.	Numerator: Total number of HC clients who had a fall within the past 90 days (current target assessment). Denominator: Total number of HC clients. Reporting of QI: 90 days. HCRS based on 2 consecutive quarters (to ensure min number of assessments to apply risk adjustment procedures). Reported at National, Province/Territory level.	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.	☑ RAI-HC	☒	☑ Risk adjustment at individual client level (individual covariates) and home care organizational level (direct standardization). Stratified by clinical risk.
4.2	Clients who experienced one or more falls in the last 90 days	Proportion of HC clients who experienced one or more falls in the last 90 days.	EU	6 monthly but falls in 90 days prior assessment. Data collected using RAI-HC European but	Technical definitions of falls are not publicly available.	Numerator: Number of HC clients who experienced one or more falls in the last 90 days.	Information not available in public materials.	☑ RAI-HC European	☒	☑ Adjusted for: use of assistive device, unsteady gait, ADL hierarchy scale, age over 80 years.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected information that included direct interviews of home care clients and family members, as well as review of physician reports medical records.		Prevalence indicator. Denominator: All HC clients with a target assessment Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12"				Stratification: clinical risk
4.3	Clients experiencing one or more falls requiring medical attention	Proportion of HCP episodes where clients experienced one or more falls requiring medical attention.	Australia	Claims based data. (Hospitalisation data (unplanned admissions and emergency department presentations) and national death index data).	Technical definitions of terms are not available in the public domain.	Numerator: Number of HCP episodes where clients had an emergency department presentation, hospitalisation, or death, or injury cause for fall. Denominator: Number of HCP episodes	Consumers on Home Care Packages	☑	☒	☑ Age, sex, comorbidities, dementia, mobility

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						To be published publicly annually at national level and provided privately to individual facilities at facility level (SA only).				
4.4	Clients with new fall-related injuries and breaks	Percentage of clients with new injuries and breaks (fractures, second- or third-degree burns or unexplained injuries).	Canada	90 days. RAI-HC or interRAI HC, collected by designated assessors, registered healthcare providers, who have received training on the administration of the tools.	Injuries: fractures, second or third degree burns or unexplained injuries. Further technical definitions not available publicly.	Numerator: HC clients with a new injury or break that occurred in the past 90 days (target assessment). Denominator: All HC clients (must have target assessment and had an assessment 3-15 months prior). Reporting of QI: 90 days. HCRS based on 2 consecutive quarters (to ensure min number of assessments to apply risk adjustment procedures). Reported at National,	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.	☑ RAI-HC	☒	☑ Risk adjustment at individual client level (individual covariates) and home care organizational level (direct standardization). Stratified by clinical risk.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						Province/Territory level.				
4.5	Clients experiencing at least one fall-related fracture	Proportion of HCP episodes where clients experience at least one fracture.	Australia	Claims based data. (Hospitalisation data (unplanned admissions and emergency department presentations). 12 monthly	Technical definitions of terms are not available in the public domain.	Numerator: Number of HCP episodes where clients had an emergency department presentation or hospitalisation for fracture, or secondary diagnosis where onset is not during the hospitalisation, the external cause of the hospitalisation is fall, treatment for which MBS paid for, and deaths from fractures. Denominator: Number of HCP episodes To be published publicly annually at national level and provided privately to individual facilities at facility level (SA only).	Consumers on Home Care Packages	☑	☒	☑ Age, sex, comorbidities, dementia, mobility, osteoporosis

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
4.6	Clients with new fall-related injuries (fractures, second- or third-degree burns, unexplained injuries)	Proportion of HC clients with new injuries – fractures, second- or third-degree burns or unexplained injuries – since baseline.	EU	6 monthly. Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected information that included direct interviews of home care clients and family members, as well as review of physician reports and medical records.	Injuries: fractures, second or their degree burns or unexplained injuries.	Numerator: Number of HC clients with new injuries – fractures, second- or third-degree burns or unexplained injuries – since baseline. Prevalence indicator. Denominator: All HC clients with a target assessment Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12	Information not available in public materials.	☑ RAI-HC European	☑	☑ Adjusted for: ADL decline, pain, unsteady gait. Stratification: clinical risk.
4.7	Patients experiencing one or more falls with major injury	Percentage of quality episodes in which the patient experiences	USA	OASIS based measures. (Outcome Assessment Information Set	Technical definitions of terms are not available in	Numerator: Number of quality episodes in which the patient experienced one	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is	☑	☒	☒

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
		one or more falls with major injury (defined as bone fractures, joint dislocations, and closed-head injuries with altered consciousness, or subdural hematoma) during the home health episode.		(OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date.	public information.	or more falls that resulted in major injury during the episode of care. Denominator: Number of home health quality episodes ending with a discharge during the reporting period, other than those covered by generic or measure-specific exclusions. 90 days. Home Health Quality Reporting (CMS and providers)	paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement			
4.8	Clients who fall with trauma (last 30 days)	Fall with trauma in the last 30 days/from the last survey to the present	Japan	Data collected by service providers (nurses or case managers) and client/family members.30 days lookback period.	Technical definitions of terms are not available online.	Calculation method unknown		Unknown	☑	Unknown
4.9	Clients with an incident of falling	Proportion of clients with an incident of falling.	Netherlands	Self-recording by care providers every year for all clients.	Technical definitions of terms are not available online.	Calculation method unknown. Care providers' performance is monitored, and	No information in the public domain	Unknown	Unknown	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						governments' accountability reports make information available to the public. Public reporting is mandatory and includes indicators of care effectiveness and safety and user experiences.				
4.10	Hip fractures among people 65 years and older (3 year average)	Number of hip fractures among people 65 years and older per 100,000 people, average values for the past 3 years.	Sweden	Data collected by the municipalities yearly, derived from national surveys, administrative data, and registries. National surveys: NBHW survey – What do the elderly think about elderly care? (from municipalities and counties) Official statistics (administrative data): Register of Social	Technical definitions of terms are not available online.	Calculation methods not known. Publicly annually at municipal level, county level and state. (Open Comparisons report annually online) showing providers' quality of care to the elderly based on the quality indicators along with grading of their performance. A relative comparison between municipalities is	No information publicly available	Unknown	☒	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				Services Interventions for the Elderly and Persons with Disability, Patient Register, Register of Medicines National quality registers: Senior Alert Registry, Swedish Palliative Registry, Dementia Register, Registry on Behaviour and Psychiatric Symptoms.		provided using a traffic light system.				
4.11	Clients with fall injuries admitted to hospital among people 80 years and older (3 year average)	Number of people with fall injuries per 1,000 people 80 years and older admitted to hospital, average values for the past 3 years.	Sweden	Data collected by the municipalities yearly, derived from national surveys, administrative data, and registries. National surveys: NBHW survey – What do the elderly	Technical definitions of terms are not available online.	Calculation methods not known. Publicly annually at municipal level, county level and state. (Open Comparisons report annually online) showing providers' quality of care to the elderly based on	No information publicly available	Unknown	☒	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				think about elderly care? (from municipalities and counties) Official statistics (administrative data): Register of Social Services Interventions for the Elderly and Persons with Disability, Patient Register, Register of Medicines National quality registers: Senior Alert Registry, Swedish Palliative Registry, Dementia Register, Registry on Behaviour and Psychiatric Symptoms.		the quality indicators along with grading of their performance. A relative comparison between municipalities is provided using a traffic light system.				

Table 20: Pressure Injuries/Skin Integrity

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
5.1	Percentage of quality episodes in which the patient has one or more Stage 2-4 pressure ulcers, or an unstageable ulcer/injury, present at discharge that are new or worsened since the beginning of the quality episode This changes in Jan 2021 and previous item new or worsened pressures ulcers/injury is still reported on Home Health Compare and 5 star	Percentage of quality episodes in which the patient has one or more Stage 2-4 pressure ulcers, or an unstageable ulcer/injury, present at discharge that are new or worsened since the beginning of the quality episode.	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date. Collected every 3 months	Technical definitions of terms are not available in public information.	Numerator: Number of completed quality episodes for patients whose assessment at discharge indicates one or more new or worsened Stage 2-4 or unstageable pressure ulcers/injuries compared to the start or resumption of care assessment Denominator: Number of home health quality episodes ending with a discharge during the reporting period, other than those covered by generic or measure-specific exclusions. 90 days. Home Health Quality Reporting (CMS and providers). Home Health	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	☑	☑	☑ Adjusted for where appropriate: age, sex, payment source, care start/admission source, risk of hospitalisation, available assistance, clinical factors (pain, pressure ulcer, stasis ulcer, dyspnoea, urinary status, bowel incontinence, cognitive function, anxiety, confusion, depression screening, behavioural symptoms), ADLs, medication management, supervision/safety assistance, health condition diagnoses.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	rating system until replaced.					Compare (CMS, providers and publicly reported online).				
5.2	Clients who present to Emergency Department or are hospitalised with a pressure injury	Proportion of HCP episodes where clients had an emergency department presentation or hospitalisation where pressure injury was reported.	Australia	Claims based data. (Hospitalisation data) (unplanned admissions and emergency department presentations). 12 monthly	Technical definitions of terms are not available in the public domain.	Numerator: Number of HCP episodes where clients had a hospitalisation or an emergency department presentation where pressure injury was included in any of the diagnoses and was not identified as onset during hospitalisation. Denominator: Number of HCP episodes. To be published publicly annually at national level and provided privately to individual facilities at facility level (SA only).	Consumers on Home Care Packages	☑	☒	☑ Age, sex, number of comorbidities. Stratified by high vs low risk of pressure injury HC clients.
5.3	Pressure ulcer or skin tear in the last 30 days	Pressure ulcer or skin tear in the last 30 days	Japan	Data collected by service providers (nurses or case	Technical definitions of terms are not	Calculation method unknown	information is not publicly available	Unknown	☑	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				managers) and client/family members. 30 days lookback period.	publicly available.					
5.4	Incidence of clients with skin ulcer	Incidence of clients with skin ulcer	Switzerland	Swiss RAI-HC data are measured within a 90-day period at entry to home care services (baseline) and calculated six monthly unless there is a significant clinical change.	Technical definitions of terms are not publicly available.	Calculation methods unknown The Swiss RAI-HC quality indicators only used for internal quality management in non-profit home care organisations and there are no national standards for home care. No cantonal (regions) or national agencies are collecting this data or publicly report on quality of care indicators.	Information is not publicly available	☑ Swiss RAI-HC	☒	☒
5.5	Proportion of clients with a pressure ulcer	Proportion of clients with a pressure ulcer.	Netherlands	Self-recording by care providers every year for all clients.	Technical definitions of terms are not publicly available.	Calculation methods unknown Care providers' performance is monitored, and governments' accountability reports make	Information is not publicly available	Unknown	☒	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						information available to the public. Public reporting is mandatory and includes indicators of care effectiveness and safety and user experiences.				

Table 21: Workforce

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
6.1	Responsiveness of staff, safety living at home, and confidence in staff	Percentage of older HC people who answered positively to the three questions. a. Do the staff respond well to you? b. How safe or insecure does it feel to live at home with support from the home service? 3. Do you feel confident about the staff coming home to you?	Sweden	Data collected by the municipalities yearly, derived from national surveys, administrative data, and registries. National surveys: NBHW survey – What do the elderly think about elderly care? (from municipalities and counties) Official statistics (administrative data): Register of Social Services Interventions for the Elderly and Persons with Disability, Patient Register, Register of Medicines National quality registers: Senior Alert	Technical definitions of terms are not available online.	Calculation methods unknown Publicly annually at municipal level, county level and state. (Open Comparisons report annually online) showing providers' quality of care to the elderly based on the quality indicators along with grading of their performance. A relative comparison between municipalities is provided using a traffic light system.	No information publicly available	Unknown	☒	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				Registry, Swedish Palliative Registry, Dementia Register, Registry on Behaviour and Psychiatric Symptoms.						
6.2	Number of home care workers providing care to an older person	Total number of home care workers providing care to an older person using home care services	UK	12 monthly. Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by local councils) from which the social care-related quality of life (SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).	Technical definitions of terms are not available in the public domain.	Calculation methods unknown. Beyond the information made available to local authorities/ regulators, relatively little information about the quality of individual home care in UK is made available to the public.	No information publicly available	Unknown	☒	Unknown
6.3	Staff helping a client in 14-day	Average number of home services personnel	Sweden	Data collected by the municipalities yearly, derived	Technical definitions of terms are not	Calculation methods unknown	No further information publicly available	Unknown	☒	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	period (average)	helping in 14 days.		from national surveys, administrative data, and registries. National surveys: NBHW survey – What do the elderly think about elderly care? (from municipalities and counties) Official statistics (administrative data): Register of Social Services Interventions for the Elderly and Persons with Disability, Patient Register, Register of Medicines National quality registers: Senior Alert Registry, Swedish Palliative Registry, Dementia Register,	available online.	Publicly annually at municipal level, county level and state. (Open Comparisons report annually online) showing providers' quality of care to the elderly based on the quality indicators along with grading of their performance. A relative comparison between municipalities is provided using a traffic light system.				

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				Registry on Behaviour and Psychiatric Symptoms.						
6.4	Staff retention	Staff retention among home care workers	UK	12 monthly. Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by local councils) from which the social care-related quality of life (SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).	Technical definitions of terms are not available in the public domain.	Calculation methods not known. Beyond the information made available to local authorities/ regulators, relatively little information about the quality of individual home care in UK is made available to the public.	No information publicly available	Unknown	☒	Unknown
6.5	Visits for each client per home care worker	The average number of home care visits each older person receives per home care worker.	UK	12 monthly. Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by	Technical definitions of terms are not available in the public domain.	Calculation methods not known. Beyond the information made available to local authorities/ regulators, relatively little information about	No information publicly available	Unknown	☒	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				local councils) from which the social care-related quality of life (SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).		the quality of individual home care in UK is made available to the public.				
6.6	Evidence of processes to ensure consistent team of workers for each client	Evidence of local processes to ensure that older people using home care services receive care from a consistent team of home care workers who are familiar with their needs.	UK	12 monthly. Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by local councils) from which the social care-related quality of life (SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).	Technical definitions of terms are not available in the public domain.	Calculation methods not known Beyond the information made available to local authorities/ regulators, relatively little information about the quality of individual home care in UK is made available to the public.	No information publicly available	Unknown	☒	Unknown
6.7	Evidence of supervision discussions	Evidence of local processes to ensure that	UK	12 monthly. Data is collected	Technical definitions of terms are not	Calculation methods not known	No information publicly available	Unknown	☒	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	with home care workers (every 3 months)	home care providers have practice-based supervision discussions with home care workers at least every 3 months.		locally. Many of the QIs are derived from the adult social care survey (conducted annually by local councils) from which the social care-related quality of life (SCRQoL) tool is derived from (adult social care outcomes toolkit, ASCOT-SCT4).	available in the public domain.	Beyond the information made available to local authorities/ regulators, relatively little information about the quality of individual home care in UK is made available to the public.				
6.8	Workers who had a supervision discussion (within 3 months)	Proportion of home care workers supporting older people who had a practice-based supervision discussion within the past 3 months.	UK	12 monthly. Data is collected locally. Many of the QIs are derived from the adult social care survey (conducted annually by local councils) from which the social care-related quality of life (SCRQoL) tool is derived from (adult social	Technical definitions of terms are not available in the public domain.	Calculation methods not known Beyond the information made available to local authorities/ regulators, relatively little information about the quality of individual home care in UK is made available to the public.	No information publicly available	Unknown	☒	Unknown

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				care outcomes toolkit, ASCOT-SCT4).						

Table 22: Pain

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
7.1	Clients who complained or showed evidence of daily pain	This indicator measures the percentage of long-stay home care clients who complained or showed evidence of daily pain, among clients who received home care services for more than 60 days.	Canada	Data are based on information in the Home Care Reporting System from mandatory Resident Assessment Instrument – Home Care (RAI-HC) assessments. Jurisdictions differ in their requirements for RAI-HC assessment frequency	Pain: no pain, less than daily, daily (one period) or daily (multiple periods)	Numerator: The number of long-stay home care clients who complained or showed evidence of moderate or severe daily pain. Denominator: The number of long-stay home care clients Reporting of QI: Public reporting	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.	☑ RAI-HC	☒	☑ Risk adjusted using following covariates: age≥65; 12 months or less between assessments; CPS +1; IADL difficulty & locomotion difficulty; decision making difficulty; sadness; ADL decline; poor health; unstable condition; hospital stays. Reported Levels of comparability/ stratifications by region, time.
7.2	Clients with pain (on pain medication or no pain medication)	Percentage of clients with pain, on medication or no pain medication. Pain frequency (pain present)	Canada	90 days (pain determined in 3 days prior target assessment) from RAI-HC or interRAI HC, collected by designated	Pain frequency: no pain, less than daily, daily (one period) or daily (multiple periods)	Numerator: Total number of HC clients who had pain and were on pain medication or were not on pain	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the	☑ RAI-HC	☒	☑ Risk adjustment at individual client level (individual covariates) and home care organizational

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
		and pain intensity (moderate to horrible/ excruciating pain) Pain Scale.		assessors, registered healthcare providers, who have received training on the administration of the tools.	Pain intensity: no pain, mild, moderate, severe, time when pain is horrible/excruc iating.	medication in last 3 days. Denominator: Total number of HC clients. Reporting of QI: 90 days. HCRS based on 2 consecutive quarters (to ensure min number of assessments to apply risk adjustment procedures). Reported at National, Province/Territory level.	community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation).			level (direct standardization).
7.3	Clients who have pain and are receiving inadequate pain control or no pain medication	Proportion of HC clients who have pain and are receiving inadequate pain control or no pain medication.	EU	6 monthly Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected	Technical definitions of inadequate and pain are not publicly available.	Numerator: Number of HC clients who have pain and are receiving inadequate pain control or no pain medication. Prevalence indicator. Denominator: All HC clients with a target assessment Reporting in publication level		☑ European interRAI HCQIs	☒	☑ Adjusted for: clinical risk

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				information that included direct interviews of home care clients and family members, as well as review of physician reports and medical records.		for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12				
7.4	Clients with at least daily episodes of severe pain at follow up	Number of HC clients with at least daily episodes of severe pain at follow-up (within past 7 days). Prevalence indicator.	EU	6 monthly but pain assessed in 7 days prior. Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected information that included direct interviews of home care clients and family	Technical definitions of severe and pain are not publicly available.	Numerator: Number of HC clients with at least daily episodes of severe pain at follow-up (within past 7 days). Prevalence indicator. Denominator: All HC clients with a target assessment. Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/arti		☑ European interRAI HCQIs	☒	☑ Adjusted for: dyspnoea, unsteady gait, ADL long form score, ADL short form score, depression rating scale score. Stratification: clinical risk.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				members, as well as review of physician reports and medical records.		cles/PMC4647796/#Sec12				
7.5	Clients with daily pain (over 3 days)	Percentage of clients with daily pain (Pain Scale) last 3 days.	Canada	90 days (pain determined in 3 days prior target assessment) from RAI-HC or interRAI HC, collected by designated assessors, registered healthcare providers, who have received training on the administration of the tools.	Pain scale: no pain, mild, moderate, severe, time when pain is horrible/excruciating.	Numerator: Total number of HC clients who had daily pain in past 3 days from target assessment Denominator: Total number of HC clients 90 days. HCRS based on 2 consecutive quarters (to ensure min number of assessments to apply risk adjustment procedures). Reported at National, Province/Territory level.	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.	☑ RAI HC	☒	☑ Risk adjustment at individual client level (individual covariates) and home care organizational level (direct standardization). Stratified by clinical risk.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
7.6	Clients with inadequate pain control	Prevalence of clients with inadequate pain control (prevalence).	Switzerland	Swiss RAI-HC data are measured within a 90-day period at entry to home care services (baseline) and calculated six monthly unless there is a significant clinical change.	Technical definitions of terms are not publicly available.	Calculation methods unknown The Swiss RAI-HC quality indicators only used for internal quality management in non-profit home care organisations and there are no national standards for home care. No cantonal (regions) or national agencies are collecting this data or publicly report on quality of care indicators.	Information is not publicly available.	☑ Swiss RAI-HC	☒	☒
7.7	Clients with a reduction in pain	Proportion of HC clients with a reduction in pain since baseline. Incidence indicator.	EU	6 monthly Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected information that	Technical definitions of reduction and pain are not publicly available.	Numerator: Number of HC clients who have a reduction in pain since baseline. Incidence indicator. Denominator: All HC clients with pain at baseline and both baseline and target assessment (at 6 months). Reporting in publication level	Information is not publicly available.	☑ European interRAI HCQIs	☑	☑ Adjusted for: unsteady gait, Cognitive Performance Scale score. Stratification: clinical risk

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				included direct interviews of home care clients and family members, as well as review of physician reports medical records.		for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12				
7.8	Clients whose pain improved	Incidence of clients whose pain improved from prior assessment (incidence).	Switzerland	Swiss RAI-HC data are measured within a 90-day period at entry to home care services (baseline) and calculated six monthly unless there is a significant clinical change.	Technical definitions of terms are not publicly available.	Calculation methods unknown. The Swiss RAI-HC QIs only used for internal quality management in non-profit home care organisations and there are no national standards for home care. No cantonal (regions) or national agencies are collecting this data or publicly report on quality of care indicators.	Information is not publicly available.	☑ Swiss RAI-HC	☒	☒

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
7.9	Clients with daily severe pain	Prevalence of clients with daily severe pain	Switzerland	Swiss RAI-HC data are measured within a 90-day period at entry to home care services (baseline) and calculated six monthly unless there is a significant clinical change.	Technical definitions of terms are not publicly available.	Calculation methods unknown. The Swiss RAI-HC QIs only used for internal quality management in non-profit home care organisations and there are no national standards for home care. No cantonal (regions) or national agencies are collecting this data or publicly report on quality of care indicators.	Information is not publicly available.	☑ Swiss RAI-HC	☒	☒

Table 23: Hospitalisations (Including Emergency Department Presentations)

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
9.1	Emergency Department presentation within 30 days of discharge from hospital	Proportion of HCP episodes where clients who were hospitalised had an emergency department presentation within 30 days of discharge.	Australia	Claims based data. (Hospitalisation data (unplanned admissions and emergency department presentations).	Technical definitions of terms are not available in the public domain.	Numerator: Number of aged care recipients who had an emergency department presentation within 30 days of entry/re-entry to residential aged care facility (>1 day after entry). Denominator: Number of HCP episodes where clients had been hospitalised Claims based data. (Hospitalisation data (unplanned admissions and emergency department presentations). 12 monthly.	Consumers on Home Care Packages	☑	☑	☑ Age, sex, number of comorbidities, unplanned hospitalisations in 12 months prior, total length of stay.
9.2	Emergency Department visits by new home care clients in 30 days after	This is the percentage of new publicly funded home care clients, of all ages, who had an	Canada	Claims based data. Home Care Database (HCD), National Ambulatory Care Reporting	Emergency department: includes counts of visits to emergency rooms including those	Numerator: The number of unscheduled emergency department visits by home care clients newly	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home	☑ RAI-HC	☒	☑ Risk adjustment at individual client level (individual covariates) and home care organizational

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	leaving hospital	unplanned emergency department visit in 30 days after leaving hospital. A lower percentage of clients is better.		System (NACRS), Registered Persons Database (RPDB)	that did and did not result in a hospital inpatient admission.	referred to home care services within 30 days of initial hospital discharge. Denominator: The number of clients referred to home care from hospital who were discharged from hospital and received their first home care service visit within the time period of interest Reporting of QI: Public reporting	care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.			level (direct standardization).
9.3	Patients who had a potentially preventable 30 day post-discharge readmission	Percentage of home health stays in which patients who had an acute inpatient discharge within the 30 days before the start of their home health stay and were admitted to an acute care hospital or LTCH for unplanned, potentially	USA	Claims-data. Medicare 90 days	Technical definitions of terms are not available in public information.	Numerator: Number of home health stays for patients who have a Medicare claim for unplanned, potentially preventable readmissions in the 30-day window beginning two days after home health discharge. Denominator: Number of home health stays that	Applicable to all home care consumers except those who are receiving only non-skilled services ;For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	☑	☑	☑ Adjusted for where appropriate: service factors, provider factors, demographic factors, and clinical factors.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	preventable readmissions in the 30-day window beginning two days after home health discharge.					begin during the 3-year observation period for patients who had an acute inpatient hospital discharge within the 30 days prior to the start of the HH stay and were discharged to the community from HH. 90 days. Claims-data. Medicare.				
9.4	Clients who require hospital stay or Emergency Department care	Percentage of clients who required hospital stay or emergency department care.	Canada	90 days. RAI-HC or interRAI HC, collected by designated assessors, registered healthcare providers, who have received training on the administration of the tools	Unplanned: Technical definitions not available publicly.	Numerator: HC clients with an overnight hospital stay, emergency department visit in the target assessment. Denominator: Total number of HC clients. Reporting of QI: 90 days. HCRS based on 2 consecutive quarters (to ensure min number of assessments to apply risk adjustment procedures).	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with	☑ RAI-HC	☒	☑ Risk adjustment at individual client level (individual covariates) specifically daily decision making ability (cognitive skills) and home care organizational level (direct standardization). Stratified by IADL capacity scale score."

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						Reported at National, Province/Territory level.	their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.			
9.5	Hospitalisation or Emergency Department use in the 90-day period before follow-up assessment	Proportion of HC clients who have been hospitalised or visited the emergency department in the 90 day period before the follow-up assessment.	EU	6 monthly. Hospitalisations in the past 90 days. Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected information that included direct interviews of home care clients and family members, as well as review of physician reports medical records.	Technical definitions of emergency department and hospitalisations are not publicly available.	Numerator: Number of HC clients who have been hospitalised or visited the emergency department in the 90 day period before the follow-up assessment. Prevalence indicator. Denominator: All HC clients with a target assessment. Reporting of QI: Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12	Information is not publicly available.	☑ European interRAI HCQIs	☒	☑ Adjusted for: physician visits, clinical risk, diabetes, depression rating scale score. Stratification: IADL capacity scale score

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
9.6	Readmissions for new home care clients 30 days after leaving hospital	This indicator measures the percentage of clients who were newly referred for home care services from the hospital that had unplanned hospital readmissions within 30 days of the initial hospital discharge. Generally, a lower percentage is better.	Canada	Claims based data. Discharge Abstract Database (DAD), Home Care Database (HCD), Registered Persons Database (RPDB)	Unplanned: Technical definitions not available publicly.	Numerator: The number of unplanned hospitalizations by home care clients newly referred to home care services within 30 days of initial hospital discharge. Denominator: The number of clients newly referred to home care from hospital who were discharged from hospital and received their first home care service visit within the time period of interest. Reporting of QI: Public reporting	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.	☑ RAI-HC	☒	None
9.7	Acute care hospitalisation during first 60 days of home health stay	Percentage of home health stays in which patients were admitted to an acute care hospital during the 60 days following the	USA	Claims-data. Medicare 90 days.	Technical definitions of terms are not available in public information.	Numerator: Number of home health stays for patients who have a Medicare claim for an admission to an acute care hospital in the 60 days following the	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not	☑	☑	☑ factors, demographic factors, and clinical factors.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
		start of the home health stay.				start of the home health stay.	excluded from the OASIS reporting requirement			
						Denominator: Number of home health stays that begin during the 12-month observation period. A home health stay is a sequence of home health payment episodes separated from other home health payment episodes by at least 60 days.				
						"90 days. Home Health Quality Reporting (CMS and providers).				
						Reporting of QI: Home Health Compare (CMS, providers and publicly reported), and is part of the 5 star quality rating (CMS, providers and publicly reported online includes 7 QIs).				

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
9.8	Hospital admission in 30 days between surveys	Hospital admission in the last 30 days/from the last survey to the present	Japan	Data collected by service providers (nurses or case managers) and client/family members. 30 days lookback period.	Technical definitions of terms are not available in the public domain.	Calculation method unknown.	information is not publicly available	Unknown	☒	Unknown
9.9	Emergency Department presentation or hospitalisation for medication-related events	Proportion of HCP episodes where clients had an emergency department presentation or hospitalisation for medication-related events.	Australia	Claims based data. (Hospitalisation data (unplanned admissions and emergency department presentations). 12 monthly	Technical definitions of terms are not available in the public domain.	Numerator: Number of HCP episodes where clients had an emergency department presentation or hospitalisation where a medication-related event was the principal discharge diagnosis for the encounter or the external cause type for the encounter. Denominator: Number of HCP episodes To be published publicly annually at national level and provided privately to individual facilities	Consumers on Home Care Packages	☑	☒	☑ Age, sex, number of comorbidities.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						at facility level (SA only).				
9.10	Patients discharged to community with no unplanned acute hospital or long-term care facilities in 31 days after discharge	Percentage of home health stays in which patients were discharged to the community and do not have and unplanned admission to an acute care hospital or LTCF in 31 days and remain alive.	USA	90 days. Claims-data. Medicare.	Technical definitions of terms are not available in public information.	Numerator: Number of home health stays for patients who have a Medicare claim for patient discharge from home health and do not have an unplanned admission to and acute care hospital or LTCF and remained alive. Denominator: Number of home health stays that begin during the 2 -year observation period. 90 days. Home Health Quality Reporting (CMS and providers). Home Health Compare (CMS, providers and publicly reported online).	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	☑	☑	☑ Adjusted for where appropriate: service factors, provider factors, demographic factors, and clinical factors.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
9.11	Clients who require hospitalisation, emergency department presentation or emergent care	Prevalence of clients who are hospitalised, present to emergency department or emergent care	Switzerland	Swiss RAI-HC data are measured within a 90-day period at entry to home care services (baseline) and calculated six monthly unless there is a significant clinical change.	Technical definitions of terms are not publicly available.	Calculation method not known. The Swiss RAI-HC QIs only used for internal quality management in non-profit home care organisations and there are no national standards for home care. No cantonal (regions) or national agencies are collecting this data or publicly report on quality of care	Information is not publicly available.	☑ Swiss RAI-HC	☒	☒
9.12	Emergency Department presentation for clients with dementia or clients hospitalised for delirium or dementia	Proportion of HCP episodes where clients with dementia had an emergency department presentation or hospitalisation for delirium or dementia.	Australia	Claims based data. (Hospitalisation data (unplanned admissions and emergency department presentations). 12 monthly.	Technical definitions of terms are not available in the public domain.	Numerator: Number of HC clients with dementia having a hospitalisation/ emergency department presentation where principal diagnoses was dementia or delirium Denominator: Number of HCP episodes where	Consumers on Home Care Packages	☑	☒	☑ Age, sex, number of comorbidities.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						clients had dementia				
						To be published publicly annually at national level and provided privately to individual facilities at facility level (SA only).				
9.13	Emergency Department use without hospitalisation during the first 60 days of home health stay	Percentage of home health stays in which patients used the emergency department but were not admitted to the hospital during the 60 days following the start of the home health stay.	USA	Claims-data. Medicare 90 days.	Technical definitions of terms are not available in public information.	Numerator: Number of home health stays for patients who have a Medicare claim for outpatient emergency department use and no claims for acute care hospitalization in the 60 days following the start of the home health stay. Denominator: Number of home health stays that begin during the 12-month observation period. 90 days. Home Health Quality Reporting (CMS	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	☑	☑	☑ Adjusted for where appropriate: service factors, provider factors, demographic factors, and clinical factors.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						and providers). Home Health Compare (CMS, providers and publicly reported online).				

Table 24: Depression

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
10.1	Clients whose mood declined	Percentage of clients whose mood declined (assessed using Depression Rating Scale (DRS)). Incidence indicator.	Canada	90 days. RAI-HC or interRAI HC, collected by designated assessors, registered healthcare providers, who have received training on the administration of the tools	Mood declined; technical definition not available publicly	Numerator: HC clients with a lower Depression Rating Scale (DRS) score on their target assessment compared with their prior assessment. Denominator: All HC clients (must have target assessment and had an assessment 3-15 months prior). Reporting of QI: "90 days. HCRS based on 2 consecutive quarters (to ensure min number of assessments to apply risk adjustment procedures). Reported at National, Province/Territory level."	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.	☑ RAI-HC	☑	☑ Risk adjustment at individual client level (individual covariates) and home care organizational level (direct standardization). Stratified by ADL hierarchy scale

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
10.2	Clients with fewer depressive symptoms	Proportion of HC clients with fewer depressive symptoms on the Depression Rating Scale at follow-up. Incidence indicator.	EU	Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected information that included direct interviews of home care clients and family members, as well as review of physician reports medical records.	Technical definitions of fewer and symptoms of depression are not publicly available.	Numerator: Number of HC clients with fewer depressive symptoms on the Depression Rating Scale at follow-up compared to baseline. Incidence indicator. Denominator: All HC clients with depressive symptoms at baseline and both baseline and target assessment (at 6 months). Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12	Information is not publicly available.	☑ European interRAI HCQI	☑	☑ Adjusted for: ADL decline, hospitalizations, depression rating scale score. Stratification: IADL summary scale.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
10.3	Clients with more depressive symptoms	Proportion of HC clients with more depressive symptoms on the Depression Rating Scale at follow-up. Includes clients with new depressive symptoms. Incidence indicator.	EU	6 months. Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected information that included direct interviews of home care clients and family members, as well as review of physician reports medical records.	Technical definitions of more and symptoms of depression are not publicly available.	Numerator: Number of HC clients with more depressive symptoms on the Depression Rating Scale at follow-up compared to baseline. Includes clients with new depressive symptoms. Incidence indicator. Denominator: All HC clients with both baseline and target assessment (at 6 months). Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12	Information is not publicly available.	☑ European interRAI HCQI	☑	☑ Adjusted for: clinical risk, difficulty bathing, institutional risk

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
10.4	Clients suffering from depression	Proportion of clients suffering from depression.	Netherlands	Self-recording by care providers every year for all clients.	Technical definitions of more and symptoms of depression are not publicly available.	Calculation method not known. Care providers' performance is monitored, and governments' accountability reports make information available to the public. Public reporting is mandatory and includes indicators of care effectiveness and safety and user experiences.	Information not available in public domain	Unknown	☒	Unknown

Table 25: Carer distress (in alphabetical order)

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
11.1	Clients whose primary informal caregiver experienced distress, anger, or depression in relation to their caregiving role or were unable to continue (over the last year)	Percentage of clients whose primary informal caregiver experienced distress, anger, or depression in relation to their caregiving role or were unable to continue. Prevalence indicator.	Canada	90 days. RAI-HC or interRAI HC, collected by designated assessors, registered healthcare providers, who have received training on the administration of the tools.	Technical definitions not available publicly.	Numerator: Total number of long-stay HC clients with a caregiver at the time of their most recent assessment in the given year. Denominator: Total number of HC clients with caregivers. Reported publicly online, 12 monthly at National, Province/Territory level. HCRS based on 2 consecutive quarters (to ensure min number of assessments to apply risk adjustment procedures). Reporting of QI: On-Line Public Reporting. See https://www.cihi.ca/en/home-care for further information.	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.	☑ European interRAI HCQI	☒	☑ Risk adjustment at individual client level (individual covariates) and home care organizational level (direct standardization). Activities of Daily Living Self-Performance Hierarchy Scale (ADL Hierarchy), Cognitive Performance Scale (CPS), Changes in Health, End-Stage Disease and Signs and Symptoms (CHESS). Stratified by cognitive performance scale score.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
11.2	Clients whose unpaid caregivers experience distress (over the last year)	The percentage of long-stay home care clients whose unpaid caregivers experience distress in a 1-year period	Canada	Resident Assessment Instrument-Home Care (RAI-HC) or interRAI HC assessments.	Caregiver distress: Technical definitions not available publicly.	Numerator: Total number of home care clients who, at the time of their most recent assessment in the given year, have an unpaid caregiver who is experiencing distress. Denominator: Total number of long-stay home care clients with a caregiver at the time of their most recent assessment in the given year. Exclusions: Home care clients included are those identified as having an unpaid caregiver on Resident Assessment Instrument-Home Care (RAI-HC) or interRAI HC assessments. Assessments with "initial assessment" as the reason for the	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.	☑ European interRAI HCQI	☒	☑ Risk adjusted using following covariates: Activities of Daily Living Self-Performance Hierarchy Scale (ADL Hierarchy); Cognitive Performance Scale (CPS); Changes in Health, End-Stage Disease and Signs and Symptoms (CHESS)

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						assessment are excluded. Reporting of QI: On-Line Public Reporting. See https://www.cihi.ca /en/home-care for further information.				
11.3	Clients with caregivers who express distress, anger and or depression at baseline and follow-up (over 6-month period)	Proportion of HC clients with caregivers who express distress, anger and or depression at baseline and follow-up. Incidence indicator.	EU	6 monthly. Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected information that included direct interviews of home care clients and family members, as well as review of physician reports and medical records.	Technical definitions of carer givers and express distress, anger and/or depression are not publicly available.	Numerator: Number of HC clients with caregivers who express distress, anger and or depression at baseline and follow-up. Incidence indicator. Denominator: All HC clients with caregivers who express caregiver distress at baseline and with both baseline and target assessment (at 6 months). Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the	Information is not publicly available.	☑ European interRAI HCQI	☒	☒ Adjusted for: not independent cognition, IADL difficulty, difficulty with locomotion, impaired decision making, difficulty with housework, clinical risk. Stratification: Cognitive Performance Scale score.

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12				
11.4	Clients with informal caregivers who report distress	Prevalence of informal caregivers who report distress	Switzerland	Swiss RAI-HC data are measured within a 90-day period at entry to home care services (baseline) and calculated six monthly unless there is a significant clinical change.	Technical definitions of terms are not publicly available.	Collection method unknown. The Swiss RAI-HC QIs only used for internal quality management in non-profit home care organisations and there are no national standards for home care. No cantonal (regions) or national agencies are collecting this data or publicly report on quality of care indicators.	Information is not publicly available	☑ Swiss RAI-HC	☒	☒

Table 26: Medication related (in alphabetical order)

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
12.1	Clients or carers who are instructed on how to monitor the effectiveness of drug therapy, how to recognise potential adverse effects, and how and when to report problems	Percentage of home health quality episodes of care during which patient/caregiver was instructed on how to monitor the effectiveness of drug therapy, how to recognize potential adverse effects, and how and when to report problems (at the time of or at any time since the most recent SOC/ROC assessment).	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date. Collected every 3 months	Technical definitions of terms are not available in public information.	Numerator: Number of home health quality episodes of care during which patient/caregiver was instructed on how to monitor the effectiveness of drug therapy, how to recognize potential adverse effects, and how and when to report problems (at the time of or at any time since the most recent SOC/ROC assessment). Denominator: Number of home health quality episodes of care ending with a discharge or transfer to inpatient facility during the reporting period, other than those covered by generic or	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	☑	☑	☑ Adjusted for where appropriate: service factors, provider factors, demographic factors, and clinical factors.

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						measure-specific exclusions. 90 days. Home Health Quality Reporting (CMS and providers). Home Health Compare (CMS, providers and publicly reported online).				
12.2	Clients who are chronic opioid users (for at least 90 days)	Proportion of HCP episodes where clients were chronic opioid users	AUS	Claims based data. (PBS medication data) 12 monthly.	Chronic opioid use is defined as continuous opioid use for at least 90 days, or for 120 non-consecutive days	Numerator: Number of HCP episodes where clients were chronic opioid users. Denominator: Number of HCP episodes To be published publicly annually at national level and provided privately to individual facilities at facility level (SA only).	Home Care Package consumers	☑	☒	☑ Age, sex, number of comorbidities.
12.3	Clients who had at least one potential period of high sedative	Proportion of HCP episodes where clients potentially experienced a high sedative load (SL≥3)	AUS	Claims based data. (PBS medication data) 12 monthly.	Technical definitions not publicly available	Numerator: Number of HCP episodes where clients had at least one potential period of high sedative load	Home Care Package consumers	☑	☒	☑ Age, sex, number of comorbidities Stratified by dementia status.

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	load (SL≥3) medication use (in a 91-day period)					(SL≥3) medication use within a 91-day period in the reporting period of 1 year. Sedative load is calculated by summing the sedative rating of each medication dispensed during the same period. Denominator: Number of HCP episodes To be published publicly annually at national level and provided privately to individual facilities at facility level (SA only).				
12.4	Clients with three or more psychoactive drugs concurrently	Proportion of persons 75 years and older in the home service treated with three or more psychoactive drugs concurrently	Sweden	Data collected by the municipalities yearly, derived from national surveys, administrative data, and registries. National surveys: NBHW survey – What do the elderly	Technical definitions of terms are not available online.	Calculation methods unknown Publicly annually at municipal level, county level and state. (Open Comparisons report annually online) showing providers' quality of care to the elderly based on the quality	No further information publicly available	Unknown	☒	Unknown

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				think about elderly care? (from municipalities and counties) Official statistics (administrative data): Register of Social Services Interventions for the Elderly and Persons with Disability, Patient Register, Register of Medicines National quality registers: Senior Alert Registry, Swedish Palliative Registry, Dementia Register, Registry on Behaviour and Psychiatric Symptoms.		indicators along with grading of their performance. A relative comparison between municipalities is provided using a traffic light system.				
12.5	Clients who have been treated	Proportion of persons aged 75 years and older in the	Sweden	Data collected by the municipalities yearly, derived	Technical definitions of terms are not	Calculation methods unknown. Publicly annually at municipal level,	No further information publicly available	Unknown	☒	Unknown

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	with an antipsychotic drug	home service who have been treated with an antipsychotic drug.		from national surveys, administrative data, and registries. National surveys: NBHW survey – What do the elderly think about elderly care? (from municipalities and counties) Official statistics (administrative data): Register of Social Services Interventions for the Elderly and Persons with Disability, Patient Register, Register of Medicines National quality registers: Senior Alert Registry, Swedish Palliative Registry, Dementia Register,	available online.	county level and state. (Open Comparisons report annually online) showing providers' quality of care to the elderly based on the quality indicators along with grading of their performance. A relative comparison between municipalities is provided using a traffic light system.				

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				Registry on Behaviour and Psychiatric Symptoms.						
12.6	Clients who have received a home medication review	Proportion of HCP episodes where clients received a home medication review.	AUS	Claims based data. (PBS medication data) 12 monthly.	Technical definitions not publicly available	Numerator: Proportion of HCP episodes where clients received a home medication review. Denominator: Number of HCP episodes\ To be published publicly annually at national level and provided privately to individual facilities at facility level (SA only).	Home Care Package consumers	☑	☒	☑ Age, sex, number of comorbidities
12.7	Clients who improve in their ability to take their medications correctly (by mouth)	Percentage of home health episodes of care during which the patient improved in ability to take their medicines correctly (by mouth).	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the	Technical definitions of terms are not available in public information.	Numerator: Number of home health episodes of care where the value recorded on the discharge assessment indicates less impairment in taking oral medications correctly at discharge than at start (or	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	☑	☑	☑ Adjusted for where appropriate: service factors, provider factors, demographic factors, and clinical factors.

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				last 5 days of every 60 day period beginning with the start of care date. Collected every 3 months		resumption) of care. Denominator: Number of home health episodes of care ending with a discharge during the reporting period, other than those covered by generic or measure-specific exclusions. 90 days. Home Health Quality Reporting (CMS and providers). Home Health Compare (CMS, providers and publicly reported online).				
12.8	Clients who improve or stay the same in their ability to take their medications correctly (by mouth)	Percentage of home health quality episodes of care during which the patient improved or stayed the same in ability to take their medicines	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)).	Technical definitions of terms are not available in public information.	Numerator: Number of home health quality episodes of care where the value recorded on the discharge assessment indicates the same or less impairment in taking oral medications correctly at	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	☑	☑	☑ Adjusted for where appropriate: service factors, provider factors, demographic factors, and clinical factors.

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
		correctly (by mouth).		Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date. Collected every 3 months		discharge than at start (or resumption) Denominator: Number of home health quality episodes of care ending with a discharge during the reporting period, other than those covered by generic or measure-specific exclusions. 90 days. Home Health Quality Reporting (CMS and providers). Home Health Compare (CMS, providers and publicly reported online).				
12.9	Clients who were dispensed at least one antibiotic for systemic use	Proportion of HCP episodes where clients were dispensed an antibiotic	AUS	Claims based data. (PBS medication data) 12 monthly.	Technical definitions not publicly available	Numerator: Proportion of HCP episodes where clients were dispensed an antibiotic Denominator: Number of HCP episodes To be published publicly annually	Home Care Package consumers	☑	☒	☑ Age, sex, number of comorbidities.

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						at national level and provided privately to individual facilities at facility level (SA only).				
12.10	Clients who were dispensed at least one antipsychotic medication	Proportion of HCP episodes where clients were dispensed an antipsychotic.	AUS	Claims based data. (PBS medication data) 12 monthly.	Technical definitions not publicly available	Numerator: Number of HCP episodes where clients were dispensed at least one antipsychotic medication during the reporting period Denominator: Number of HCP episodes To be published publicly annually at national level and provided privately to individual facilities at facility level (SA only).	Home Care Package consumers	☑	☒	☑ Age, sex, number of comorbidities, prior use of antipsychotics. Stratified by dementia status.
12.11	Clients with 10 or more medications	Proportion of persons 75 years and older in the home service treated with ten or more medicines.	Sweden	Data collected by the municipalities yearly, derived from national surveys, administrative data, and registries.	Technical definitions of terms are not available online.	Calculation methods unknown Publicly annually at municipal level, county level and state. (Open Comparisons report annually online) showing	No further information publicly available	Unknown	☒	Unknown

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				National surveys: NBHW survey – What do the elderly think about elderly care? (from municipalities and counties) Official statistics (administrative data): Register of Social Services Interventions for the Elderly and Persons with Disability, Patient Register, Register of Medicines National quality registers: Senior Alert Registry, Swedish Palliative Registry, Dementia Register, Registry on Behaviour and Psychiatric Symptoms.		providers' quality of care to the elderly based on the quality indicators along with grading of their performance. A relative comparison between municipalities is provided using a traffic light system.				

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
12.12	Clients with at least one of four indicators of inappropriate drug use	Proportion of persons 75 years and older in the home service treated with at least one of four indicators of inappropriate drug use.	Sweden	Data collected by the municipalities yearly, derived from national surveys, administrative data, and registries. National surveys: NBHW survey – What do the elderly think about elderly care? (from municipalities and counties) Official statistics (administrative data): Register of Social Services Interventions for the Elderly and Persons with Disability, Patient Register, Register of Medicines National quality registers: Senior Alert Registry,	Technical definitions of terms are not available online.	Calculation methods unknown Publicly annually at municipal level, county level and state. (Open Comparisons report annually online) showing providers' quality of care to the elderly based on the quality indicators along with grading of their performance. A relative comparison between municipalities is provided using a traffic light system.	No further information publicly available	Unknown	☒	Unknown

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				Swedish Palliative Registry, Dementia Register, Registry on Behaviour and Psychiatric Symptoms.						
12.13	Clients with inconsistent drug intake	Prevalence of clients with inconsistent drug intake	Switzerland	Swiss RAI-HC data are measured within a 90-day period at entry to home care services (baseline) and calculated six monthly unless there is a significant clinical change.	Technical definitions of terms are not publicly available	Calculation method unknown. The Swiss RAI-HC QIs only used for internal quality management in non-profit home care organisations and there are no national standards for home care. No cantonal (regions) or national agencies are collecting this data or publicly report on quality of care indicators.	Information not publicly available	☑ Swiss RAI-HC	☑	☒
12.14	Clients who have a drug regimen review conducted at the start or	The percentage of home health quality episodes in which a drug regimen review was conducted	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient	Technical definitions of terms are not available in public information.	Numerator: Number of quality episodes in which: 1) The agency conducted a drug regimen review at the start of care or resumption of care	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid	☑	☑	☑ Adjusted for where appropriate: service factors, provider factors, demographic

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	resumption of care with follow-up completed for identified issues	at the start of care or resumption of care and completion of recommended actions from timely follow-up with a physician occurred each time potential clinically significant medication issues were identified throughout that quality episode.		Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date. Collected every 3 months		or the patient is not taking any medications and 2) If potential clinically significant medication issues were identified at any time during the quality episode, then the HHA contacted a physician (or physician-designee) and completed prescribed/recommended actions by midnight of the next calendar day in response to all the identified issues throughout the quality episode. Denominator: Number of quality episodes ending with a discharge or, transfer to an inpatient facility, or death at home during the reporting period. 90 days. Home Health Quality	Managed Care Plan are not excluded from the OASIS reporting requirement			factors, and clinical factors.

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						Reporting (CMS and providers). Home Health Compare (CMS, providers and publicly reported online).				

Table 27: Wait times/system access (in alphabetical order)

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
13.1	Clients who waited five days or less from date of authorisation for personal support services	This indicator measures the percentage of complex home care patients aged 19 and older who waited five days or less for personal support services. The wait time is described as the number of days between the service authorization date and the date of receipt of Local Health Integration Network (LHIN) in-home personal support. A higher percentage is better.	Canada	RAI-HC or interRAI HC, collected by designated assessors, registered healthcare providers, who have received training on the administration of the tools.	Wait time defined as number of days.	Numerator: This indicator measures the percentage of complex home care patients aged 19 and older who waited five days or less for personal support services. The wait time is described as the number of days between the service authorization date and the date of receipt of Local Health Integration Network (LHIN) in-home personal support. A higher percentage is better. Denominator: The number of complex home care patients who received their first personal support service visit within five days of the date they were authorized for	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.	☑ RAI-HC	☒	☑ Risk adjustment at individual client level (individual covariates) and home care organizational level (direct standardization).

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						personal support services by the LHIN. Reporting of QI: 90 days. HCRS based on 2 consecutive quarters (to ensure min number of assessments to apply risk adjustment procedures). Reported at National, Province/Territory level.				
13.2	Clients who waited five days or less from date of authorisation for nursing services	This indicator measures the percentage of home care patients authorized for nursing services who received their first nursing visit within five days. The wait time is described as the number of days between service	Canada	RAI-HC or interRAI HC, collected by designated assessors, registered healthcare providers, who have received training on the administration of the tools.	Wait time: Number of days between service authorisation and formal in-home nursing.	Numerator: This indicator measures the percentage of home care patients authorized for nursing services who received their first nursing visit within five days. The wait time is described as the number of days between service authorization date and the date of	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after	☑ RAI-HC	☒	☑ Risk adjustment at individual client level (individual covariates) and home care organizational level (direct standardization).

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
		authorization date and the date of formal in-home nursing. A higher percentage is better.				formal in-home nursing. A higher percentage is better. Denominator: The number of home care patients in a fiscal year who received their first nursing service visit within five days of the date they were authorized for nursing services by the LHIN. Reporting of QI: 90 days. HCRS based on 2 consecutive quarters (to ensure min number of assessments to apply risk adjustment procedures). Reported at National, Province/Territory level.	hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.			
13.3	Clients whose care started or	Percentage of home health quality episodes in	USA	OASIS based measures. (Outcome Assessment	Technical definitions of terms are not available in	Numerator: Number of home health quality episodes in which	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither	☑	☑	☑ Adjusted for where appropriate: service factors,

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	resumed on the physician-ordered date (if provided), or otherwise within two days of the referral date or inpatient discharge date, whichever is later	which the start or resumption of care date was on the physician-ordered SOC/ROC date (if provided), otherwise was within 2 days of the referral date or inpatient discharge date, whichever is later.		Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date. Collected every 3 months	public information.	the start or resumption of care date was on the physician-ordered SOC/ROC date (if provided), otherwise was within 2 days of the referral date or inpatient discharge date. Denominator: number of home health quality episodes ending with discharge, death, or transfer to inpatient facility during the reporting period, other than those covered by generic or measure-specific exclusions. 90 days. Home Health Quality Reporting (CMS and providers). Home Health Compare (CMS, providers and publicly reported online).	Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement			provider factors, demographic factors, and clinical factors.

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
13.4	Median number of days clients waited for home care services	This is the median number of days that new clients of publicly funded home care, who are 19 years or older, waited for home care. It is measured from a request for services to their first home visit for those who applied in the community, or from hospital discharge to their first home visit for those who applied in the hospital. A lower number of days is better.	Canada	RAI-HC or interRAI HC, collected by designated assessors, registered healthcare providers, who have received training on the administration of the tools.	Wait time: number of days from request for service to the first home visit.	Numerator: This is the median number of days that new clients of publicly funded home care, who are 19 years or older, waited for home care. It is measured from a request for services to their first home visit for those who applied in the community, or from hospital discharge to their first home visit for those who applied in the hospital. A lower number of days is better. Denominator: Wait time, in days, between application/discharge and first service Reporting of QI: 90 days. HCRS based on 2 consecutive quarters (to ensure min number of assessments to apply risk	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.	☑ RAI-HC	☒	☑ Risk adjustment at individual client level (individual covariates) and home care organizational level (direct standardization).

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						adjustment procedures). Reported at National, Province/Territory level.				
13.5	Median number of days clients waited for services following Aged Care Assessment Program assessment approval	Wait time for HCP.	AUS	Claims based data. (PBS medication data) 12 monthly.	Technical definitions not publicly available	Numerator: Wait time from Aged Care Assessment Program (ACAP) assessment approval to commencement of first HCP, median days (IQR) To be published publicly annually at national level and provided privately to individual facilities at facility level (SA only).	Home Care Package consumers	☑	☒	☑ Age, sex, number of comorbidities Stratified by dementia status.
13.6	Median number of days clients waited for services from the date that the initial referral was received	The median number of calendar days that clients waited, from the date that the initial referral was received to the date when the first home care	Canada	RAI-HC or interRAI HC, collected by designated assessors, registered healthcare providers, who have received training on the administration of the tools.	. Technical definitions not publicly available	Numerator: Denominator: c Reporting of QI: 90 days. HCRS based on 2 consecutive quarters (to ensure min number of assessments to apply risk	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The	☑ RAI-HC	☒	☑ Risk adjustment at individual client level (individual covariates) and home care organizational level (direct standardization).

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	service was received.					adjustment procedures). Reported at National, Province/Territory level.	interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.			
13.7	Number of days clients waited for services from the date of application. .	Waiting time (number of days) from date of application to the date when the person receives home care services.	Sweden	Data collected by the municipalities yearly, derived from national surveys, administrative data, and registries. National surveys: NBHW survey – What do the elderly think about elderly care? (from municipalities and counties) Official statistics (administrative data): Register	Technical definitions of terms are not available online.	Calculation methods unknown Publicly annually at municipal level, county level and state. (Open Comparisons report annually online) showing providers' quality of care to the elderly based on the quality indicators along with grading of their performance. A relative comparison between municipalities is	No further information publicly available	Unknown	☒	Unknown

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				of Social Services Interventions for the Elderly and Persons with Disability, Patient Register, Register of Medicines National quality registers: Senior Alert Registry, Swedish Palliative Registry, Dementia Register, Registry on Behaviour and Psychiatric Symptoms.		provided using a traffic light system.				

Table 28: Behavioural symptoms (in alphabetical order)

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
14.1	Clients who improve in their frequency of experiencing confusion	Percentage of home health quality episodes of care during which patients are confused less often.	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date.	Technical definitions of terms are not available in public information.	Numerator: Number of home health quality episodes of care where the discharge assessment indicates the patient is confused less often at discharge than at start (or resumption) of care. Denominator: Number of home health quality episodes of care ending with a discharge during the reporting period, other than those covered by generic or measure-specific exclusions. Exclusion: Denominator exclusions: Home health quality episodes of care for which the patient, at start/resumption of	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	☒	☒	☒ Adjusted for where appropriate: age, sex, payment source, care start/admission source, risk of hospitalisation, available assistance, clinical factors (pain, pressure ulcer, stasis ulcer, dyspnoea, urinary status, bowel incontinence, cognitive function, anxiety, confusion, depression screening, behavioural symptoms), ADLs, medication management, supervision/safety assistance, health condition diagnoses.

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						care, was not confused at any time, episodes that end with inpatient facility transfer or death, or patient is nonresponsive. 90 days. Home Health Quality Reporting (CMS and providers)				
14.2	Clients whose communication ability declined (problems understanding, or being understood by, other people)	Percentage of clients whose communication ability declined (problems understanding, or being understood by, other people). Communication ability scale. Incidence indicator.	Canada	90 days. RAI-HC or interRAI HC, collected by designated assessors, registered healthcare providers, who have received training on the administration of the tools.	Not available publicly	Numerator: Clients with worsened communication ability on their target assessment compared with their previous assessment. Denominator: All HC clients (must have target assessment and had an assessment 3-15 months prior). 90 days. HCRS based on 2 consecutive quarters (to ensure min number of assessments to	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life;	☑ RAI-HC	☑	☑ Risk adjustment at individual client level (individual covariates) and home care organizational level (direct standardization).

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						apply risk adjustment procedures). Reported at National, Province/Territory level.	rehabilitation; long term supportive; maintenance client.			
14.3	Clients with a score of less than 8 on the communication scale (problems understanding others or making themselves understood) who experience a decline (over 6 months)	Proportion of HC clients with a score of less than 8 on the communication scale at baseline who experience a decline (higher score on the communication scale). Includes clients with new difficulties in communication. Incidence indicator.	EU	6 monthly. Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected information that included direct interviews of home care clients and family members, as well as review of physician reports medical records.	Technical definitions not available in the public domain	Numerator: Number of HC clients with a score of less than 8 on the communication scale at baseline who experience a decline (higher score on the communication scale). Includes clients with new difficulties in communication. Incidence indicator. Denominator: All HC clients with both baseline and target assessment (at 6 months). Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy,	Information is not publicly available	☑ European interRAI HCQIs	☑	☑ Adjusted for: difficulty managing finances, managing medications, and with phone use, Alzheimer's disease, clinical risk, ADL hierarchy scale score. Stratification: IADL performance scale

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12				
14.4	Clients with delirium	Prevalence of clients with delirium	Switzerland	Swiss RAI-HC data are measured within a 90-day period at entry to home care services (baseline) and calculated six monthly unless there is a significant clinical change.	Technical definitions of terms are not publicly available	Collection method unknown. The Swiss RAI-HC QIs only used for internal quality management in non-profit home care organisations and there are no national standards for home care. No cantonal (regions) or national agencies are collecting this data or publicly report on quality of care indicators.	Information is not publicly available	☑ Swiss RAI-HC	☒	☒
14.5	Clients with some difficulty on the communication scale (problems understanding others or making	Proportion of HC clients with some difficulty in the communication scale (problems understanding others or making	EU	6 monthly. Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs.	Technical definitions not available in the public domain	Numerator: Number of HC clients with some difficulty in the communication scale (problems understanding others or making themselves understood) at	Information is not publicly available	☑ European interRAI HCQIs	☑	☑ Yes. Adjusted for: dementia (both Alzheimer's and non), clinical risk, sadness, Cognitive Performance Scale score, ADL

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	themselves understood) who experience an improvement (over 6 months)	themselves understood) at baseline who experience an improvement (lower score on the communication scale). Incidence indicator.		Data collected by specially trained assessors, usually nurses, who verify collected information that included direct interviews of home care clients and family members, as well as review of physician reports medical records.		baseline who experience an improvement (lower score on the communication scale). Incidence indicator. Denominator: All HC clients with some difficulty in communication impairment at baseline and both baseline and target assessment (at 6 months). Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12				hierarchy scale score, age over 80 years. Stratification: IADL capacity scale

Table 29: Infection (including antibiotics and vaccinations) (in alphabetical order)

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
15.1	Clients who are offered and decline the influenza vaccination for the current flu season	Percentage of home health quality episodes of care during which patients were offered and refused influenza immunization for the current flu season.	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date.	Technical definitions of terms are not available in public information.	Numerator: Number of home health quality episodes of care during which patients were offered and refused influenza immunization for the current flu season. Denominator: Number of home health quality episodes of care ending with a discharge or transfer to inpatient facility during the reporting period, other than those covered by generic or measure-specific exclusions. Exclusions: Denominator exclusions: Home health quality episodes care for which no care was provided during October 1 – March	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	☑	☒	☑ Adjusted for where appropriate: age, sex, payment source, care start/admission source, risk of hospitalisation, available assistance, clinical factors (pain, pressure ulcer, stasis ulcer, dyspnoea, urinary status, bowel incontinence, cognitive function, anxiety, confusion, depression screening, behavioural symptoms), ADLs, medication management, supervision/safety assistance, health condition diagnoses.

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						31, OR the patient died, or the patient does not meet age/condition guidelines for influenza vaccine. 90 days. Home Health Quality Reporting (CMS and providers)				
15.2	Clients who did not receive the influenza vaccination (incidence)	Percentage of clients who did not receive the influenza vaccination. Incidence indicator.	Canada	90 days. RAI-HC or interRAI HC, collected by designated assessors, registered healthcare providers, who have received training on the administration of the tools.	Technical definitions of terms are not available in the public domain	Numerator: Total number of clients who did not receive the influenza vaccination at either target assessment or in prior assessments (within 6-months). Denominator: Total number of HC clients. 90 days. HCRS based on 2 consecutive quarters (to ensure min number of assessments to apply risk adjustment procedures).	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term	☑ RAI-HC	☑	☑ Risk adjustment at individual client level (individual covariates) and home care organizational level (direct standardization) Stratified by ADL summary scale.

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						Reported at National, Province/Territory level.	supportive; maintenance client.			
15.3	Clients who did not receive the influenza vaccination (prevalence)	Proportion of HC clients who did not receive an influenza vaccination at either baseline or 6-month follow-up assessments. Prevalence indicator.	EU	6 monthly. Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected information that included direct interviews of home care clients and family members, as well as review of physician reports and medical records.	Technical definitions of terms are not available in the public domain	Numerator: Number of HC clients who did not receive an influenza vaccination at either baseline or 6-month follow-up assessments. Prevalence indicator. Denominator: All HC clients with a baseline and target assessment. Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12	Information is not publicly available	☑ European interRAI HCQIs	☑	☑ Adjusted for: less than 2 h of daily activity, institutional risk, Cognitive Performance Scale score, depression rating scale score. Stratification: clinical risk.

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
15.4	Clients who received the influenza vaccination for the current flu season	Percentage of home health quality episodes of care during which patients received influenza immunization for the current flu season.	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date.	Technical definitions of terms are not available in public information.	Numerator: Number of home health quality episodes of care during which the patient a) received vaccination from the HHA or b) had received vaccination from HHA during earlier episode of care, or c) was determined to have received vaccination from another provider. Denominator: Number of home health quality episodes of care ending with a discharge or transfer to inpatient facility during the reporting period, other than those covered by generic or measure-specific exclusions. Exclusions: Denominator exclusions: Home health quality episodes care for	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	☑	☒	☑ Adjusted for where appropriate: age, sex, payment source, care start/admission source, risk of hospitalisation, available assistance, clinical factors (pain, pressure ulcer, stasis ulcer, dyspnoea, urinary status, bowel incontinence, cognitive function, anxiety, confusion, depression screening, behavioural symptoms), ADLs, medication management, supervision/safety assistance, health condition diagnose

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						which no care was provided during October 1 – March 31, OR the patient died, or the patient does not meet age/condition guidelines for influenza vaccine. 90 days. Home Health Quality Reporting (CMS and providers). Home Health Compare (CMS, providers and publicly reported online).				
15.5	Clients who were did not receive the current influenza immunization due to medical contraindication	Percentage of home health quality episodes of care during which patients were determined to have medical contraindication(s) to receiving influenza immunization.	USA	OASIS based measures. (Outcome Assessment Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period	Technical definitions of terms are not available in public information.	Numerator: Number of home health quality episodes of care during which patients were determined to have medical contraindication(s) to receiving influenza vaccination. Denominator: Number of home health quality episodes of care ending with a	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement	☑	☒	☑ Adjusted for where appropriate: age, sex, payment source, care start/admission source, risk of hospitalisation, available assistance, clinical factors (pain, pressure ulcer, stasis ulcer, dyspnoea, urinary status, bowel incontinence, cognitive function,

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				beginning with the start of care date.		discharge or transfer to inpatient facility during the reporting period, other than those covered by generic or measure-specific exclusions. Exclusions: Denominator exclusions: Home health quality episodes care for which no care was provided during October 1 – March 31, OR the patient died, or the patient does not meet age/condition guidelines for influenza vaccine. 90 days. Home Health Quality Reporting (CMS and providers)				anxiety, confusion, depression screening, behavioural symptoms), ADLs, medication management, supervision/safety assistance, health condition diagnose
15.6	Clients with a respiratory infection (in the last 30 days)	Respiratory infection in the last 30 days	Japan	Data collected by service providers (nurses or case managers) and	Technical definitions of terms are not available in the public domain.	Collection method unknown.	No information in the public domain	Unknown	☒	Unknown

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				client/family members. 30 days lookback period.						
15.7	Clients with a urinary tract infection (in the last 30 days)	Urinary tract infection in the last 30 days	Japan	Data collected by service providers (nurses or case managers) and client/family members. 30 days lookback period.	Technical definitions of terms are not available in the public domain.	Collection method unknown.	No information in the public domain	Unknown	☒	Unknown
15.8	Clients with a urinary tract infection (incidence)	not available	China	The data for the validation study were collected directly from each home care provider by trained research staff. Reporting/ employment of indicators.	Technical definitions of terms are not available in the public domain.	Collection method unknown. Little is known about the implementation and/or reporting of home care QIs in China.	No information in the public domain	Unknown	☒	Unknown

Table 30: Cognition (in alphabetical order)

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
16.1	Clients with a score of less than 6 on the Cognitive Performance Scale at baseline who experience a further decline (over 6 months)	Proportion of HC clients with a score of less than 6 on the Cognitive Performance Scale at baseline who experience a further decline. Includes clients who experience a new cognitive impairment. Incidence indicator.	EU	6 monthly. Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses, who verify collected information that included direct interviews of home care clients and family members, as well as review of physician reports medical records.	Technical definitions of terms are not available in the public domain.	Numerator: Number of HC clients with a score of less than 6 on the Cognitive Performance Scale at baseline who experience a further decline. Includes clients who experience a new cognitive impairment. Incidence indicator. Denominator: All HC clients with both baseline and target assessment (at 6 months). Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12	Information is not publicly available	☑ European interRAI HCQIs	☑	☑

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
16.2	Clients with cognitive disorders (over the last 30 days)	Cognitive disorders in the last 30 days	Japan	Data collected by service providers (nurses or case managers) and client/family members. 30 days lookback period.	Technical definitions of terms are not available in the public domain.	Collection method unknown.	No information in the public domain	Unknown	☒	Unknown
16.3	Clients with cognitive impairment	Unknown.	China	The data for the validation study were collected directly from each home care provider by trained research staff. Reporting/ employment of indicators	Technical definitions of terms are not available in the public domain.	Collection method unknown. Little is known about the implementation and/or reporting of home care QIs in China.	No information in the public domain	Unknown	Unknown	Unknown
16.4	Clients with some baseline cognitive impairment on the Cognitive Performance Scale who experience an improve-	Proportion of HC clients with some baseline cognitive impairment on the Cognitive Performance Scale who experience an improvement. Incidence indicator.	EU	6 monthly. Data collected using RAI-HC European but using 2nd generation European interRAI HCQIs. Data collected by specially trained assessors, usually nurses,	Technical definitions of terms are not available in the public domain.	Numerator: Number of HC clients with some baseline cognitive impairment on the Cognitive Performance Scale at baseline who experience an improvement Denominator: All HC clients with some cognitive impairment at	Information is not publicly available	☑ European interRAI HCQIs	☑	☑ Adjusted for: difficulty with phone use, impaired decision making, Alzheimer's diagnosis, clinical risk, not independent cognition, less than 2 h of activity daily, Cognitive

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
	ment (over 6 months)			who verify collected information that included direct interviews of home care clients and family members, as well as review of physician reports and medical records.		baseline and both baseline and target assessment (at 6 months). Reporting in publication level for 7 countries: Czech Republic, Denmark, Finland, Germany, Italy, and the Netherlands for HC recipients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4647796/#Sec12				Performance Scale score. Stratification: IADL summary scale
16.5	Percentage of clients whose cognitive ability declined (assessed on the Cognitive Performance Scale)	Percentage of clients whose cognitive ability declined (assessed by Cognitive Performance Scale). CPS: summarizes the patient's cognitive status based on RAI-MDS 2.0 assessment items relating to short-term memory, ability	Canada	90 days. RAI-HC or interRAI HC, collected by designated assessors, registered healthcare providers, who have received training on the administration of the tools.	Technical definitions of terms are not available in the public domain.	Numerator: HC clients with a lower Cognitive Performance Scale (CPS) score on their target assessment compared with their prior assessment. Denominator: All HC clients (must have target assessment and had an assessment 3-15 months prior).	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after	☑ RAI-HC	☑	☑ Risk adjustment at individual client level (individual covariates) and home care organizational level (direct standardization). Stratified by IADL performance score.

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
		to make daily decisions, making self-understood and eating. Incidence indicator.				90 days. HCRS based on 2 consecutive quarters (to ensure min number of assessments to apply risk adjustment procedures). Reported at National, Province/Territory level.	hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.			

Table 31: Palliative Care (in alphabetical order)

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
17.1	Clients who had an assess-ment of pain in the 7 days before death	Percentage of persons deceased at age 65 or older who had an assessment of pain during their last week in life.	Sweden	Data collected by the municipalities yearly, derived from national surveys, administrative data, and registries. National surveys: NBHW survey – What do the elderly think about elderly care? (from municipalities and counties) Official statistics (administrative data): Register of Social Services Interventions for the Elderly and Persons with Disability, Patient Register, Register of Medicines National quality registers: Senior Alert	Technical definitions of terms are not available online.	Calculation method unknown. Publicly annually at municipal level, county level and state. (Open Comparisons report annually online) showing providers' quality of care to the elderly based on the quality indicators along with grading of their performance. A relative comparison between municipalities is provided using a traffic light system.	No information publicly available	Unknown	☒	Unknown

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
				Registry, Swedish Palliative Registry, Dementia Register, Registry on Behaviour and Psychiatric Symptoms.						
17.2	Clients who had an unplanned visit to the Emergency Department in the 30 days before death	This is the percentage of publicly funded home care clients, of all ages, who had an unplanned visit to the emergency department in the last 30 days of life. A lower percentage of clients is better. Unplanned visits in the last month of life could indicate they did not receive the care they needed in the community.	Canada	Claims based data. Home Care Database (HCD), National Ambulatory Care Reporting System (NACRS), PCCF+ version 5k6A, Registered Persons Database (RPDB)	Technical definitions of terms are not available in the public domain	Numerator: The number of descendants specified in the denominator who had at least one unplanned emergency department visit within 30 days before death. Denominator: The number of home care clients who died in the given fiscal year. Exclusions: Not all emergency department visits are avoidable and do not always represent poor quality care. Public Reports (annual report,	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term	☑ RAI-HC	☑	Unknown

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						bulletins, and theme reports)	supportive; maintenance client.			
17.3	Clients who lived in the community and received at least one home care service in the 30 days before death	This indicator measures the percentage of people, who lived in the community during their last 30 days who received at least one home care service within that period, reported as any home care or palliative care	Canada	Continuing Care Reporting System (CCRS), Discharge Abstract Database (DAD), Home Care Database (HCD), National Ambulatory Care Reporting System (NACRS), National Rehabilitation Reporting System (NRS), Ontario Mental Health Reporting System (OMHRS), Postal Code Conversion File Plus (PCCF+), Registered Persons Database (RPDB)	Technical definitions of terms are not available in the public domain	Numerator: Number of people specified in the denominator, who received at least one home care service during their last 30 days of life, reported as any home care or palliative care. Denominator: Number of people who died and were in the community in the last 30 days of their life. Exclusions: The data don't show information on the details and quality of the home care, health care needs, preferences, and appropriateness of the care Public reports. Reported Levels of comparability/ stratifications include Income, Region, Rurality, Sex, Time	Publicly funded home care services, including publicly funded services delivered by private-sector agencies and those funded and delivered by the federal government (eg Veterans Affairs). Home care is delivered in the community in private homes and residential care settings, as well as in hospitals and ambulatory clinics. The interRAI HC can be used to assess persons with chronic needs for care as well as those with post-acute care needs (eg after hospitalization, in a hospital-at-home situation). Clients are considered for specific indicators in line with their sub-group: acute home care; end of life; rehabilitation; long term supportive; maintenance client.	☑ RAI-HC	Unknown	Unknown

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
17.3	Involvement of family in guiding palliative care programs	not available	China	The data for the validation study were collected directly from each home care provider by trained research staff. Reporting/ employment of indicators.	Technical definitions of terms are not available in the public domain.	Collection method unknown. Little is known about the implementation and/or reporting of home care QIs in China.	No information in the public domain	Unknown	☒	Unknown
17.4	Mastery of palliative care skills	not available	China	The data for the validation study were collected directly from each home care provider by trained research staff. Reporting/ employment of indicators.	Technical definitions of terms are not available in the public domain.	Collection method unknown. Little is known about the implementation and/or reporting of home care QIs in China.	No information in the public domain	Unknown	☒	Unknown

Table 32: Other clinical (in alphabetical order)

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
18.1	Cases of unplanned extubation (incidence)	Unknown	China	The data for the validation study were collected directly from each home care provider by trained research staff. Reporting/ employment of indicators.	Technical definitions of terms are not available in the public domain.	Collection method unknown. Little is known about the implementation and/or reporting of home care QIs in China.	No information in the public domain	Unknown	☒	Unknown
18.2	Clients who have mouth problems	Prevalence of clients who have mouth problems	Switzerland	Swiss RAI-HC data are measured within a 90-day period at entry to home care services (baseline) and calculated six monthly unless there is a significant clinical change.	Technical definitions of terms are not publicly available	Calculation method unknown. The Swiss RAI-HC QIs only used for internal quality management in non-profit home care organisations and there are no national standards for home care. No cantonal (regions) or national agencies are collecting this data or publicly report on quality of care indicators.	Information not publicly available	☑ Swiss RAI-HC	☑	☒
18.3	Clients who improve in dyspnoea	Percentage of home health episodes of care during	USA	OASIS based measures. (Outcome Assessment	Technical definitions of terms are not available in	Numerator: Number of home health episodes of care where the	Applicable to all home care consumers except those who are receiving only non-skilled services; For whom neither	☑	☒	☑ Adjusted for where appropriate: age,

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
		which the patient became less short of breath or dyspneic.		Information Set (OASIS-D1) (Standardized Patient Assessments, non-HER Electronic Clinical Data)). Entry of HH service and the last 5 days of every 60 day period beginning with the start of care date.	public information.	discharge assessment indicates less dyspnea at discharge than at start (or resumption) of care. Denominator: Number of home health episodes of care ending with a discharge during the reporting period, other than those covered by generic or measure-specific exclusions. Denominator exclusions: Denominator exclusions: Home health episodes of care for which the patient at the start/resumption of care was not short of breath at any time episodes that end with inpatient facility transfer or death. 90 days.	Medicare nor Medicaid is paying for HH care (patients receiving care under a Medicare or Medicaid Managed Care Plan are not excluded from the OASIS reporting requirement			sex, payment source, care start/admission source, risk of hospitalisation, available assistance, clinical factors (pain, pressure ulcer, stasis ulcer, dyspnoea, urinary status, bowel incontinence, cognitive function, anxiety, confusion, depression screening, behavioural symptoms), ADLs, medication management, supervision/safety assistance, health condition diagnoses.

Number	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
						Home Health Quality Reporting (CMS and providers). Home Health Compare (CMS, providers and publicly reported), and is part of the 5 star quality rating (CMS, providers and publicly reported online includes 7 QIs).				
18.4	Clients with new or reoccurring pre-existing disease (in the last 30 days)	Occurring new disease or reoccurring pre-existing disease in the last 30 days	Japan	Data collected by service providers (nurses or case managers) and client/family members. 30 days lookback period.	Technical definitions of terms are not available in the public domain.	Collection method unknown.	No information in the public domain	Unknown	☒	Unknown
18.5	Clients with poor dyspnea control (in the last 30 days)	Poor dyspnea control in the last 30 days	Japan	Data collected by service providers (nurses or case managers) and client/family members. 30 days lookback period.	Technical definitions of terms are not available in the public domain.	Collection method unknown.	No information in the public domain	Unknown	☒	Unknown

Table 33: Mortality (in alphabetical order)

Rank	Quality indicator – unique wording	Quality indicator description	Quality indicator country	Type and frequency of data collection	Key definitions of terms	Calculation of quality indicator and reporting methods	Types of home care services in scope	Use permitted under licence	Multiple observation required	Risk adjusted
19.1	Clients who had a premature death	Proportion of HCP episodes where clients had a premature death.	AUS	Claims based data. (National death index data). 12 monthly.	Technical definitions of terms are not available in the public domain.	Numerator: Number of HCP episodes where clients had a premature death, that is their main cause of death is 'external' and considered potentially avoidable. Denominator: Number of HCP episodes. To be published publicly annually at national level and provided privately to individual facilities at facility level (SA only).	Consumers on Home Care Packages	☑	☒	☑ Age, sex, number of comorbidities.

www.pwc.com.au