

# Quality indicators in public sector residential aged care services

Resource materials  
January 2015 edition

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# Acknowledgements

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# How to use these resources

The *Quality indicators in public sector residential aged care services* resources provide a range of information to support services to monitor and improve resident care and quality of life.

They have been designed as learning and education resources for anyone and everyone involved in the quality Indicator program. The information has been divided into four self-contained sections to allow you to read as little or as much as you want in any order.

## Section 1: Understanding quality indicators

This section provides an overview for understanding and using quality indicators in health and aged care services.

## Section 2: Participating in the Victorian quality indicator program

This section outlines specific information required to understand and actively participate in the quality indicator program for public sector residential aged care services (PSRACS). This includes the collection and reporting requirements, and how to analyse your results using reference ranges and other data to compare the outcomes of your care, set targets and communicate your performance.

## Section 3: Guidance for the five indicators

This section contains five self-contained parts with comprehensive information about each of the five quality indicators. Each part details the objectives for the indicator and how to collect and report the relevant measures, definitions, data recording sheets, a risk management framework and relevant resources. Current evidence is also presented about each of the indicator areas.

Each of the above sections include references if you would like further reading on the subject.

## Section 4: Information for stakeholders

This section provides four separate information sheets about the quality indicator program for different stakeholders. The information sheets are designed for general practitioners, clinical and care teams, residents, their families and advocates, and board directors and executives.

There are also three information sheets which outline the features of the quality indicator reports.

These resources have been prepared by the department's Ageing and Aged Care Branch, Quality Improvement Unit. We welcome any feedback you may have about the resources and any queries about the quality indicator program. Please email us at [quality.indicators@health.vic.gov.au](mailto:quality.indicators@health.vic.gov.au)

These resources replace the previous *Resource manual for Quality Indicators in Public Sector Residential Aged Care Services 2007–2008*.

# Section 1: Understanding quality indicators

## 1.1 Quality indicators today

The information technology revolution in the last 25 years has radically changed the way we gather, analyse and share data about the provision of care in all human service settings.

Healthcare, aged care, disability care and childcare services are all now expected to collect and report on performance data, and implement improvement measures as a result.

These processes are called different things depending on their context. They include terms such as:

- quality indicators
- health outcome measures
- performance indicators
- clinical indicators
- quality of life indicators
- performance outcome measures
- quality report cards
- dashboard indicators.

Although the terms we use are different, the goal remains the same: measure, report and seek to improve performance. What is indisputable is that indicators are accepted as a way to support improvement and are here to stay.

The goal is to measure, report and seek to improve performance.

### Did you know?

EA Codman, an American surgeon, is credited as the pioneer of a quality indicator approach with his 'end of results' idea.

In the 1910's Codman wanted to know what happened to patients he had operated on and to explain why a poor outcome, such as death, may have occurred. Codman went on to advocate that each doctor and hospital gather this information and be judged by their performance.

You will not be surprised that Codman's idea and efforts were disparaged and not adopted at the time.



## 1.2 The role of quality indicators

Quality indicators alert us to the possibility that there is a problem – they do not provide data for drawing instant conclusions about the quality of care.

A less than optimal performance in a specific quality indicator does not necessarily mean an organisation has a poor quality system or substandard care practices. It may be due to data collection methods or unexpected one-off events.

### Definitions

There are many definitions for quality indicators. Most understand a quality indicator to be ‘a tool to help us identify performance issues, flag concerns and prompt us to make improvements to care’ (Arora et al. 2007).

Others define quality indicators according to how they are used, for example:

- a tool within a broader quality system that assists us to describe and communicate what we mean by high-quality care
- a tool to assist us to set goals and monitor if we are achieving them
- a tool within the quality governance systems with results used to inform boards and executives about performance in care.

Quality indicators and quality indicator programs all aim to improve care for residents, and it is helpful to understand each of these aspects.

### Attributes of quality indicators

The attributes of a robust quality indicator include:

- importance
- reliability and validity
- capacity to improve
- availability of data that is comparable and user friendly.

**Importance** is determined by significant mortality, morbidity or cost implications, and by the needs of residents.

**Reliability and validity** relate to the required technical attributes of measuring an event. For a quality indicator to be reliable, we must be able to clearly and unambiguously define what is being measured. For example, we should all have the same understanding of what constitutes a ‘fall’, and be able to report it the same way in every service. For a quality indicator to be valid, we should have evidence that what we measure reflects the nature of the care received by the resident. It should also seek to reflect system-wide performance.

**Capacity to improve** means having measures that are sensitive enough to detect a real difference. Sometimes ‘significant difference’ arises in large population numbers as a product of statistical methods. Statistical significance does not equate to clinical significance.

**Data availability** means that data is low cost, easy to gather and timely.

**Comparable** quality indicators allow risk adjustment for inter-organisational comparison.

**User friendly** means that the results can be explained in plain language.

The combination of attributes selected and how they are weighted will influence the development and selection of the individual quality indicator.

Indicators are either ‘rate-based’ or ‘sentinel events’. Rate-based indicators are the most common, and involve aggregation of many similar events to express a proportion or ratio. A sentinel event is a rare event of major significance that should be investigated when it occurs (for example, a fall leading to death from a head injury). These are typically the subject of a root cause analysis. More information is available at the Department of Health sentinel events website: <http://www.health.vic.gov.au/clinrisk/sentinel/>.

## Grouping quality indicators

The most interesting and least-discussed area is putting together a suite of quality indicators.

A suite is a small set or group of indicators with a focus on:

- a specific topic (for example, falls or pain)
- service area (for example, dementia-specific or palliative care beds)
- organisation (for example, residential care, clinic or hospital).

Commonly, new quality indicator programs start collecting everything about everything. Over time, they eventually end up collecting one thing about a few things.

It is not possible to measure every aspect of care, and what is possible to measure does not always meet the required desirable attributes of an indicator. In addition, while using a large number of indicators is more comprehensive, it is more costly.

It is not possible to measure every aspect of care.

Instead, it is better to start out using a small number of indicators to concentrate on, communicate, coordinate and change practice to improve care.

The set of indicators used should provide a broad overview of the care provided and balances clinical risk areas with measures describing the resident experience and quality of life. Other useful indicators would be those that try to measure how well care is integrated and coordinated between and across systems.

## Consider what happens next

Once the suite of quality indicators has been decided, the next step is to establish a program to collect, analyse, report and respond to these measurements.

At this stage, services may encounter barriers to changing practices.

Staff may be uneasy that the quality indicator program will be used to show them up and punish them. They may be confused about why they have to undertake the new program, or worried that collecting data will get in the way of caring for residents.

Staff may also be concerned about whether the processes used to collect and analyse the data will provide a fair representation of their work, or that more resources will be needed to implement the program.

This is where leadership and resource allocation, staff training, encouragement and support will be defining success factors in any indicator program.

## 1.3 Data integrity and validation

### Importance of data integrity

#### Definition and collection

Using reliable definitions and data sources for quality indicators is central to providing useful information.

A reliable quality indicator will report consistent results when different people collect data from the same source.

Reliability has multiple elements.

The indicator definition must be reproducible – it must be clear, unambiguous, explicit and applied consistently by different people in different places. Education, training and assessing data collectors' understanding of the quality indicator help to reduce subjective variation between staff. You should provide written information to clarify ambiguous or commonly experienced difficulties. Data collected should always be checked for completeness and accuracy.

**Data needs to be checked for completeness and accuracy.**

The data sources you use must be an accurate reflection of what happens in your residential aged care service, and they must consistently capture the elements required for each quality indicator.

A robust quality indicator program will test the reliability of data. This requires planning and completing data audits to check the information collected.

#### Validation

There are three methods for assessing validity:

- content (face) validity
- construct validity (refers to the adequacy of the measure – i.e. does it measure what is intended?)
- criterion (gold standard) validity.

Content validity, also described as 'face validity', is the most common method in the absence of published research evidence. It establishes whether indicators are intelligible and make sense to the informed user.

Ideally, both construct and criterion methods would also be used to test the validity of each quality indicator. Criterion validity involves comparison with a 'gold standard' – however, no such standard currently exists.

Additionally there is currently no established gold standard for aged care indicators.

#### Questions to consider include:

##### **Is the quality indicator associated with quality of care?**

For example, is there a direct link between quality of care and what is being measured? Does it make sense? Is it an important aspect of care for the resident?

##### **Does the quality indicator improve overall care delivered in the residential aged care service?**

This is a much broader perspective that focuses on the organisation and system-wide practice.

Even if residents of a particular aged care service rarely experience the event being measured, the quality indicator is still relevant because it can prompt a review to discover why the event does not occur, and how this can be maintained.

Quality indicators can be used to test systems to determine how events could occur, and they play an important role in risk management.

## 1.4 Benchmarking and setting targets

### Benchmarking

A benchmark is a criterion or point of reference. It is the level of optimal or superior performance.

This is distinct from a target, which usually refers to a minimum level of accepted practice or steps towards that minimum level.

For example, a benchmark for a quality indicator relating to harm minimisation from falls would be the best-achieved levels internationally. In contrast, an individual service may set a target for a 10 per cent improvement on last year. The service may achieve the target but not reach the benchmark.

Conversely, a service can achieve a benchmark but not the target. For example, a service may set a target of zero for the quality indicator for pressure injuries, but the best performing residential aged care service in the world (the benchmark) achieves a level of 5 per 10,000 bed days.

Benchmarking and achieving targets are processes to get to a predetermined level.

Benchmarking is the way of 'finding, adapting and implementing outstanding practices in order to achieve superior performance' (see [www.benchmarkingpartnerships.com.au/benchmarking.htm](http://www.benchmarkingpartnerships.com.au/benchmarking.htm)).

It is a learning process that requires an organisation to compare itself with others as part of an ongoing process.

Benchmarking and achieving targets are processes to get to a predetermined level.

Camp (1989) outlines the basic steps:

- Identify what needs to improve.
- Find organisations with best practice in the relevant areas.
- Partner with those organisations to learn from their experiences and share your own experiences.
- Gain an understanding of strengths and gaps in your own practices.
- Develop options for improvement.
- Develop an implementation plan, including an evaluation plan.
- Implement the change.
- Review performance.
- Identify further opportunities for reform.

There are different types of benchmarking. While the general principles are the same, different approaches relate to the resources available, the overall objective and the sensitivity of sharing information.

Internal benchmarking is used to compare performance within one service or organisation. This is usually easier, requires less time and allows highly sensitive information to be reviewed.

In contrast, external benchmarking via comparisons between services requires more time and resources. The potential for benefit may be greater because you may be able to partner with the best performing residential aged care service.

It is also possible for services to do 'functional' benchmarking by partnering with a non-aged care organisation that is excellent at a similar function or service. For example, hotels and restaurants may be able to share how they approach customer service and meals.

## Key challenges in benchmarking

Successful benchmarking requires:

- the support and cooperation of a benchmarking group (a number of residential aged care services) to provide information and data
- using information or data that is comparable
- the capacity to evaluate whether variation in outcomes is attributable to differences in care practice or other factors.

A key step in benchmarking is using quality indicator data to identify variations in performance and reflect on factors or characteristics that may explain the variation.

There is often a tendency to rush to an obvious conclusion, push pet subjects or become defensive. It is important to determine whether differences in the rate or occurrence of events in one setting compared with another are due to chance, artifacts of data collection, resident characteristics or differences in exposure to hazards (that is, 'specific causes' – factors that are within the control or influence of the service).

For benchmarking to succeed, participants must trust the data and the adjustments made to the data, as well as agree on what constitutes a prevention/risk management program.

Comparisons with 'like services' are more helpful if you select those that are similar in size, bed configuration, region or resident mix.

## Setting targets

Setting targets and/or reference ranges can be challenging. It is like setting personal life goals, such as getting fit or saving money. We can be realistic and pragmatic; or optimistic and aspirational; or give ourselves an ultimatum or absolute goal.

Benchmarks are often the easiest way to set a target, though they are not always easy to achieve.

Targets can be realistic and pragmatic; or optimistic and aspirational.

### Realistic targets

Realistic targets make sense to us because they feel achievable and give us hope that we will attain the target and be successful. The downside is that we do not stretch ourselves. By staying in our comfort zone, we never know what is really possible.

### Aspirational targets

Aspirational targets are set above what we think is possible. These targets may be met if we rethink how we do things and challenge current practice.

The downside of using an aspirational target is that practically minded people may decide to give up altogether because they know the target is not achievable.

Aspirational targets challenge services to move beyond the 'average' and out of our comfort zone.

Optimal care requires setting aspirational targets that need planning and focused effort over time to achieve.

### Absolute targets

Absolute targets are the hardest of all to achieve.

The downside of absolute targets is that they may seem unreachable and we will always fail.

## Apply these different targets

Let's apply targets to skin care and development of pressure injuries.

A realistic target might be having the same number of injuries this year as last year.

An aspirational target would be to halve the number of pressure injuries for next year.

An absolute target is to have no pressure injuries at all.

### When thinking about targets:

Which do you prefer?

What do the residents prefer?

How will staff behave with the different targets?

The real message being sent by using an absolute target is accepting the evidence that pressure injuries are preventable. The knowledge, skills, equipment and resources already exist in our world. Our challenge is putting this into practice.

## Surveillance, thresholds and reference ranges

Most people know about surveillance or surveillance programs from public health management of infectious diseases.

Surveillance is a way to regularly check what is happening to make sure we reach our goals and act early if we go off track.

To do this we often set a threshold that will trigger an action.

A threshold could be the occurrence of a single event, such as a death due to medication error, or a rate, for example, 20 per cent of residents are prescribed a particular medicine.

Thresholds are also known as reference levels or points, limits or boundaries. These are expressed as a range when there are two levels, usually an upper and lower level. If rates of an event are within the upper and lower levels, this is usually referred to as 'acceptable'. If the rate is outside the upper or lower levels, a threshold has been crossed which requires an explanation.

One of the disadvantages of using reference ranges is the risk of developing a false sense of security and complacency. When the quality indicator results repeatedly fall within the reference range, there is a tendency to think that nothing new needs to be done.

If the quality indicator results are not analysed over time and monitored, you may fail to recognise a slow and consistent trend because all the results are 'in range'.

The advantage of using ranges is that they can mitigate a certain amount of normal and expected fluctuation in quality indicator results. Setting a range helps to monitor progress and not overreact to small changes in quality indicator rates.

### Important questions for services include:

What is our quality goal in a particular area?

Is it to be good, better or best?

What targets, threshold or range will we use to measure and monitor how we get there?

Determining whether the quality indicator rate is associated with the quality of care is more difficult to establish.

To calculate the rate requires describing both the numerator and denominator. The numerator targets the event being tracked (such as number of pressure injuries), while the denominator is the total resident population who may be at risk (such as rate per 100 residents or rate per 1,000 resident bed days).

Denominators can be made more specific by using subgroups based on demographic characteristics or the presence of underlying comorbid disease (for example, rate per 1,000 high-level care resident days).

Note that if you use large denominators, changes in the numerator must be substantial for the quality indicator rate to be noticeably altered – there is not much difference between one per 100,000 and two per 100,000 resident days. On the other hand, a small residential aged care service may be unjustly blemished by the same numerator change if the denominator value is low, for example the difference between one per 100 and two per 100 resident days.



## 1.5 Reporting performance

The community expects that publicly funded services and institutions are open, transparent and accountable for their actions. Quality indicators are often used to report publicly on performance.

Public report cards increase confidence and stimulate organisations and their people to improve care. There is also a risk that complex information will be misinterpreted, so they need to be handled carefully.

Reporting stimulates organisations and their people to improve care

Report cards can enhance:

- internal monitoring to maintain and improve care
- external comparisons to identify leading organisations that can teach others
- resident choice about which residential aged care service they may wish to live in.

The purpose of the report card and the audience who will use it determines what quality indicators should be included and how information is presented – potential residents and their families will have different needs to aged care service managers, for example.

Be aware that different people will also approach statistical performance data differently, and that efforts to simplify the data may lead to incorrect assumptions and poor decisions.

Quality indicators are often used to report publicly on performance.

### Communication

When communicating quality indicator results include both interpretation of the data and your plan of action to improve care.

Tailor the communication to the audience who will receive this information. Find a balance between comprehensiveness, frequency and timeliness of reporting.

Always consider the needs of the audience.

Residents, families, general practitioners, point of care staff, management and the board all have different needs.



## 1.6 Governance roles and responsibilities

The modern concept of responsibility in the provision of health and aged care services is described as clinical governance. This is defined as the system by which the governing body, managers, clinicians and staff share responsibility and accountability for the quality of care, continuously improving, minimising risk, and fostering an environment of excellence in care for consumers/residents/patients (Australian Council on Healthcare Standards 2004, quoted in Department of Health 2009).

In essence this means that everyone at all levels within an organisation or service is responsible for the standard of care, including staff, management, the executive and the board of directors.

A successful quality indicator program requires everyone in an organisation to fulfil their roles and responsibilities. Each group will use and interpret information from quality indicators differently. The common goal for all is to provide excellent care and continually look for ways to further improve.

### Board and executive

The board and executive are expected to provide the governance, leadership and oversight for quality of care. This includes ensuring the adequacy of systems and resources to gather, report and respond to quality indicator information, and to consider the merits of the different interventions required for improving care and the organisation as a whole.

The board and executive are expected to provide the governance, leadership and oversight for quality of care.

Their leadership role includes demonstrating a willingness to challenge the status quo and seeking objective information about performance and promoting transparency and accountability.

What may not be visible to them are the direct hands-on aspects of service delivery.

### Managers and quality personnel

Senior managers and quality personnel are expected to understand the principles and practical application of quality indicators and their limitations.

Their role is to support the implementation and facilitate the interpretation of information relevant to service delivery. This may include active management and participation in the collection, reporting and responding to quality indicators.

They also implement specific interventions within the service to improve care, such as explaining the service's quality indicator data to staff. The challenge is personalising quality indicator data so it is relevant and real. This requires translating the data in a way that will be meaningful. Having information about both the individual residents and the whole population is essential. Quality indicators that give an overview or a summary of how a service operates are very helpful.

Accumulating summary information requires selecting the most important factors that occur in the majority of interactions at the point of care with residents. This often leads to an unfair criticism that the individual nuances of delivering and accepting care are lost. This is inherent in summarising data. There are also different methods for gathering this type of information.

What may not be visible are the individual one-on-one resident and point of care interactions that occur every minute of every day. This is why the use of quality indicators provides an opportunity for monitoring, maintaining and improving resident safety and quality systems.

Managers and quality personnel are expected to understand the principles and practical application of quality indicators.

## Point of care staff

Staff experience, observe and participate in improvement initiatives that occur across the whole of their workplace.

Their role is to ask questions, report gaps in care, suggest changes and implement initiatives to improve care for the benefit of the residents, themselves and the service as a whole.

What is visible to point of care staff is whether the service provides the education, training, resources and support needed to make desired changes. Point of care staff will see this in terms of their immediate interactions with a limited number of residents and how it affects the work of their colleagues.

What may not be visible to point of care staff are the organisation's decision-making processes. This includes the information used to monitor and determine whether safety and quality programs are effective and appropriate. Point of care staff may also be unaware of how the multitude of initiatives for quality and safety compete for finite resources.

Staff should ask questions, report gaps in care, suggest changes and implement initiatives to improve care.

## Residents, families and visitors

Residents, families and visitors usually have a narrow but intense level of interaction with services and care staff.

Not all quality indicators will be relevant to each individual resident.

What is visible to residents and families is the staff response to any concerns or requests.

What may not be visible are the systems of care for monitoring, maintaining and improving resident safety and quality.

Providing quality indicator reports is an opportunity to showcase and explain the residential aged care service's systems of care.

The role of residents, families and visitors is to ask questions about care.

## Stakeholder information

Specific information about the Quality indicator program in public sector residential aged care services is available for each stakeholder at Section 4 of these resource materials.

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## Section 2: Participating in the quality indicator program

## Glossary of terms

**Service:** a residential aged care service operated by a Victorian public sector health service, including multipurpose services and incorporated associations.

**PSRACS:** public sector residential aged care services.

**QI:** quality indicator.

**Raw QI data:** the number of incidents or occurrences recorded for each of the 13 measures for the five indicators in each quarter, for example, the total number of falls.

**Occupied bed days:** the number of actual resident days without any vacancies.

**Rate:** the rate for each of the quality indicators is a rate per 1,000 bed days. The rate is derived using the following formula:

$$\frac{\text{Raw number of the measure being controlled}}{\text{Bed days for quarter}} \times 1000$$

**State rate:** is the mean or average of the reported data by PSRACS for the quarter. To reduce the influence of outliers, the state rate includes only results within two standard deviations of the mean. This means that 95 per cent of all data contributes to the result.

**Quality monitoring chart (QMC):** is based on a statistical process control chart, and a feature of the reports from the department.

**Reference range:** describes an upper limit and a lower limit for each of the quality indicators. These limits were set through research and consultation with experts and the PSRACS sector in 2010.

**Target:** is the optimum lower reference range rate or a predetermined rate set by an individual service.

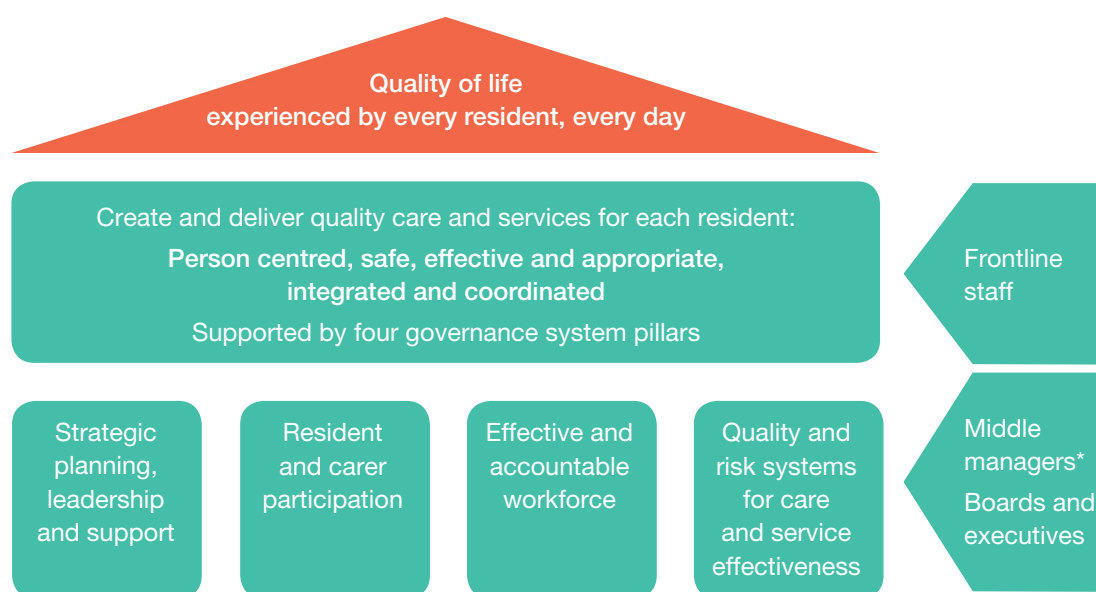
## 2.1 Quality indicators in public sector residential aged care services

### The approach to quality

While the Commonwealth Government has primary responsibility for residential aged care services, the Victorian Department of Health & Human Services actively supports public health services to provide high-quality care to residents living in public sector residential aged care services (PSRACS).

The department's *Beyond compliance strategy* provides the strategic framework for focusing on safety and quality in PSRACS. It aspires to broaden approaches to quality, beyond minimum Commonwealth accreditation requirements, and support care excellence.

Beyond compliance programs and initiatives are designed to encourage and support PSRACS to excel in the delivery of person-centred, safe, effective, appropriate, integrated and coordinated services so quality of life is experienced by every resident, every day.



\* Middle management provides the essential day-to-day link between health service governance, operational management, care and service delivery.

Source: Department of Health 2010

**Figure 1: Generic organisational components of governance to support quality in public sector residential aged care services**

The strategy provides an evidence-based approach to system improvement. It focuses on the development of effective tools and resources, the provision of training and development opportunities, and active support to strengthen performance and risk management. These activities occur in four key areas:

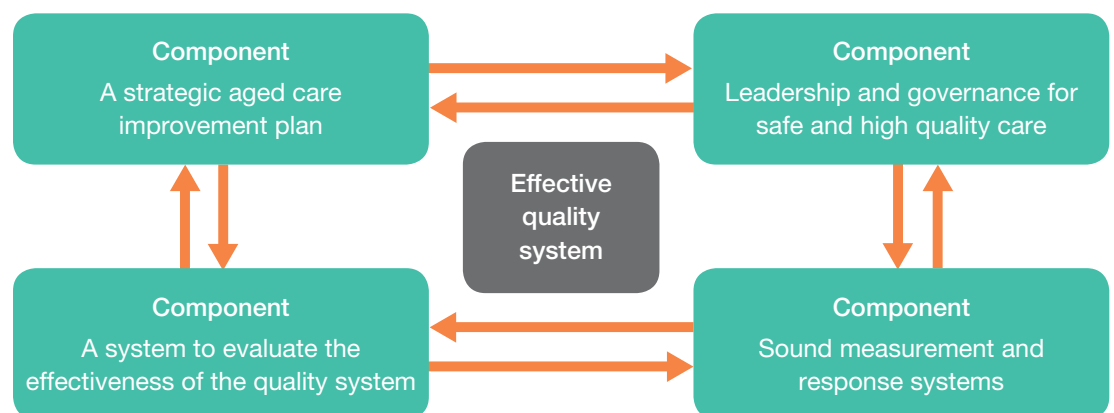
- effective governance, leadership and strategic planning
- active resident and carer participation

- an effective and accountable workforce
- robust quality and risk management systems for care and service effectiveness.

A literature overview (Department of Health 2009a) highlighted that achieving consistently high-quality care requires the same organisational elements in both the aged and acute sectors.

This means having:

- clear goals and targets
- strong governance
- a culture that supports continuous improvement
- a strategic quality plan
- valid and reliable measurement
- improvement tools and methods
- quality system evaluation.



**Figure 2: Key components of effective quality systems**

Pressure injuries, falls and fractures, use of physical restraint, nine or more medicines and unplanned weight loss can all have serious and potentially catastrophic impacts on the health and quality of life for residents. Effective approaches to monitoring and measuring performance are vital to support quality care outcomes and continuous improvement.

The PSRACS quality indicator program provides this approach with a robust system for valid and reliable measurement in high-risk care areas. The program is underpinned by research and governed by established business rules with oversight by a reference group. The group comprises academics, experts, service providers, stakeholder groups and departmental representatives with a focus on quality.

Participation in the program and effective use of the quality indicator data for informing service improvement supports high quality of care for all residents living in PSRACS.

## The quality indicator program for PSRACS

The quality indicator (QI) program is part of a suite of quality initiatives designed to support care excellence in PSRACS. The QI program is managed by the Quality Improvement Unit (QIU) within the department's Ageing and Aged Care Branch.

It has been developed over a number of years through research, use of the best available evidence and consultation and partnership with PSRACS, experts and academics.

The QI program is widely accepted and supported by PSRACS. Results for the first quarter of the 2014–15 reporting cycle showed that 99 per cent of services reported their data for the period.

The QI program aims to:

- provide a set of meaningful and measurable indicators to assist services to monitor and improve major aspects of quality of resident care
- enable services to trend their performance over time, and benchmark against other services to identify both improvements in quality of care and target specific areas for improvement
- assist services to report publicly on quality of care and enhance community understanding of the service quality and other performance issues
- provide an evidence base to facilitate local and statewide quality improvement initiatives.

This program was the first of its kind in Australia and is now well established and recognised. All PSRACS have been collecting and reporting indicators on five high-risk care areas important to the health and wellbeing of residents since 2006.

These are:

- pressure injuries
- falls and fall-related fractures
- use of physical restraint
- use of nine or more medicines
- unplanned weight loss.

The program does not capture other common and equally important areas of resident care risks such as constipation, pain, delirium, depression and palliative care. However, active participation in the QI program helps to foster the required skills, knowledge and confidence for services to monitor these and other important areas of resident care.

This includes those outlined in the Strengthening Care Outcomes for Residents with Evidence (SCORE) research conducted by La Trobe University at <http://www.health.vic.gov.au/agedcare/services/score.htm>



The following provides an overview of the key developmental and research activities contributing to the QI program since commencement.

2003/04	The department commissions the Gerontic Nursing Clinical School of La Trobe University to identify potential quality indicators for PSRACS.
2004/05	Six quality indicators with validated tools piloted in a sample of PSRACS.
July 2006	Five quality indicators collected by all PSRACS in Victoria and reported to the department.
2008	The department commissions the Australian Centre for Evidence Based Aged Care, La Trobe University to determine validation of QI data collection.
2010	The department commissions Campbell Research and Consulting to develop reference ranges for each quality indicator in partnership with PSRACS.
2011	Recommendations for PSRACS participating in the program to publically report their performance against the indicators in their annual quality of care reports. The department commissions Barwon Health to assist in the development of revised resources to assist with implementation of the reference ranges.
2014	The department commissions Monash University to research quality use of medicines. Results of the cross sectional descriptive survey about the indicators published. <sup>1</sup> Indicator resources undergo further expert and academic review for ongoing currency. Newly designed reports and automated reporting system implemented.

## Quality indicators and the quality improvement cycle

The QI program is an important quality system component to support public health services provide safe, high-quality care in their PSRACS.

Use of the indicators should be considered as only one mechanism within a suite of improvement activities required for an effective quality system to improve safety, reduce preventable harm and support every resident to experience quality of life every day.

The QI program complements other safety, risk, accreditation, quality improvement, and innovation activities. The program does not replace any of these.

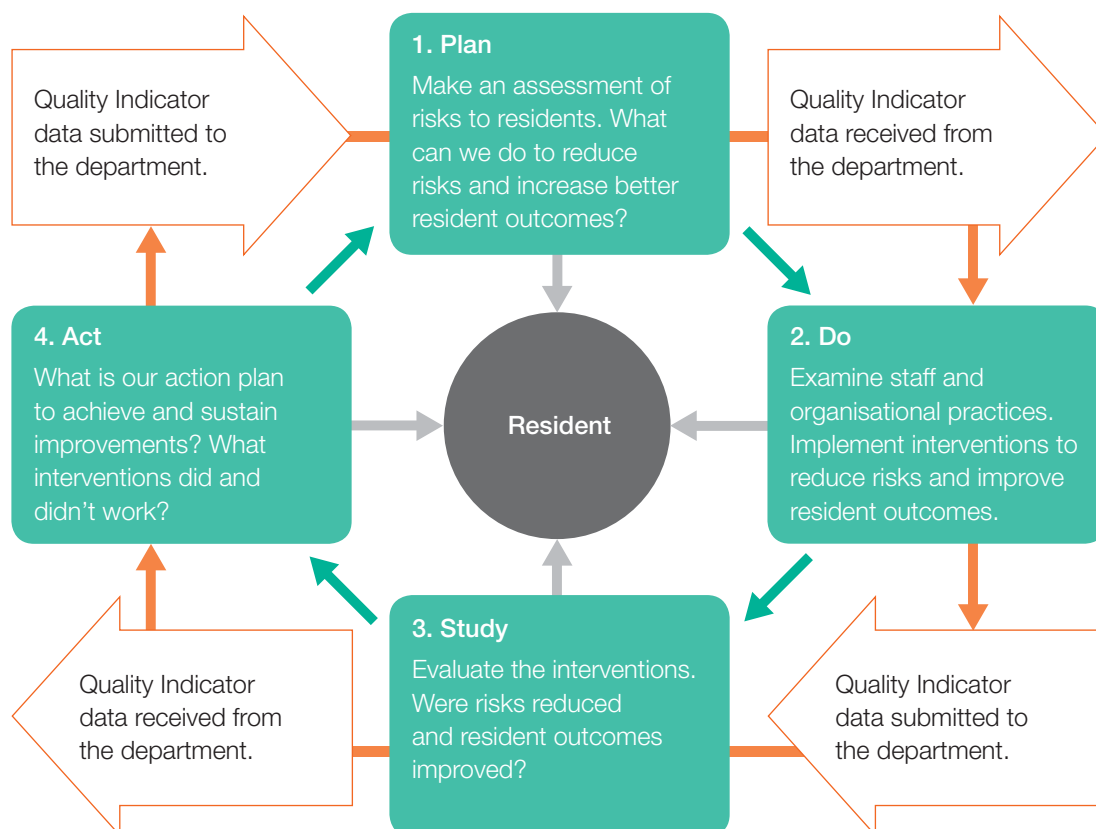
As such, the QIs provide complementary information to that already gathered through different mechanisms such as complaints, incidents, adverse and sentinel events reporting, root cause analysis, surveys, audits (including structured clinical audits), process mapping, gap analysis, records review and adverse event screening, structured interviews, and administrative data.

<sup>1</sup> Ibrahim JE, et al, *Use of quality indicators in nursing homes in Victoria, Australia: A cross-sectional descriptive survey*

Using a range of different techniques gives a fuller picture of what truly happens in your PSRACS and provides an ability to cross check when one area is performing below expectations.

The QIs are easily incorporated into the Plan Do, Study, Act (PDSA) quality improvement cycle as effective drivers for change and improvement.

The example in Figure 3 shows how the ongoing cycles of QI data collection and reporting processes can sit alongside an organisational risk management approach for managing resident risks. In this example, the continual monitoring, analysis and review of the QI data could directly inform the need for actions or interventions to minimise risks to residents.



**Figure 3: Quality Indicators as part of the Plan, Do, Study, Act cycle**

## 2.2 Collecting quality indicator data

This section provides an overview to support the collection of data required to participate and get the most out of the QI program.

Services collect data for each of the indicators and submit it every three months to the department's Ageing and Aged Care Branch Quality Improvement Unit.

### Data collection

The QI program involves collecting data for each of the five indicators.

This involves 13 data measures.

#### Pressure injuries

Six measures reported: Stage I, II, III, and IV pressure injuries, as well as unstageable and suspected deep tissue pressure injuries, which are being collected for the first time from 2015.

#### Falls and falls-related fractures

Two measures reported: falls, and falls-related fractures.

#### Use of physical restraint

Two measures reported: intention to restrain, and use of physical restraint devices.

#### Use of nine or more medicines

One measure reported.

#### Unplanned weight loss

Two measures reported: consecutive weight loss and significant weight loss.

### Data collection guidelines

Section 3 of this manual details data collection guidelines.

The guidelines include:

- **data collection methods and requirements** for each of the 13 measures. This describes the frequency of data collection in each quarter, and inclusions and exclusions. There is also an opportunity to report any comments about your resident assessments
- **definitions** for each of the measures have been drawn from literature
- **quick tips** for data accuracy to ensure reliability and validity of the information collected
- **data recording forms** for some of the indicators to enable standardised collection of all the necessary data

- **a risk management framework** for each quality indicator
  - i. Risk identification to highlight the given risk and the significance of this risk for residents
  - ii. Analysis to consider any associated factors that contribute to the risk occurring and provides a prompt for identification and management
  - iii. Adverse events with consideration of the potential outcomes for the resident if the risk is not identified and appropriately managed. This component clearly highlights the importance of reducing any identified risks.
  - iv. Risk control provides links and information to strategies for reducing the risk, such as validated tools which can provide assistance for identification, assessment and management of the risk.
- **resources** and further information about monitoring and improving resident care.
- **evidence** to highlight the clinical risks and the importance of monitoring resident care.

Consistency in the way in which data is collected and reported is vital to getting the best out of the QI program.

Having strong organisational systems for data collection, submission, analysis and response will limit errors, avoid missed data submissions and give increased confidence about the reliability of the QI results.

Figure 4 provides an overview of the QI program and the collection and reporting systems for the five quality indicators.

If you have any queries about the collection of QI data please contact:

Ageing and Aged Care Branch Quality Improvement Unit  
 email: [quality.indicators@health.vic.gov.au](mailto:quality.indicators@health.vic.gov.au)  
 telephone: 03 9096 0908.

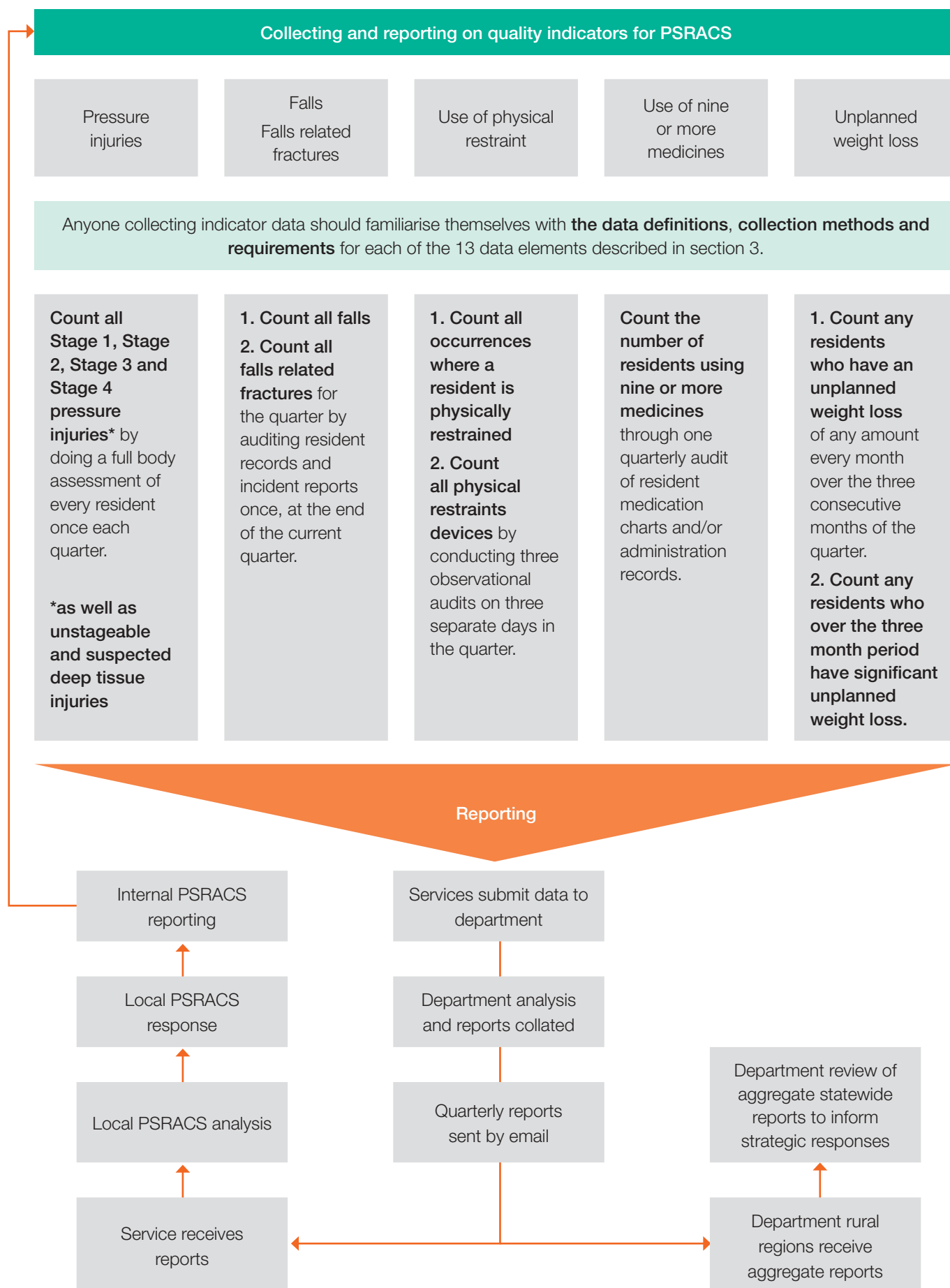


Figure 4: Overview of the QI program

## 2.3 Submitting data to the department

PSRACS submit data to the department's Ageing and Aged Care Branch Quality Improvement Unit every three months. The department then collates and calculates the quality indicator rates and summarises the information and provide a series of reports for the board and executive, clinical and care staff and consumers.

### Data management

QI data should be submitted to the department by the 21st day of the month following the end of each quarter.

Data must be submitted no later than:

- 21 October for Quarter 1 (1 July to 30 September)
- 21 January for Quarter 2 (1 October to 31 December)
- 21 April for Quarter 3 (1 January to 31 March)
- 21 July for Quarter 4 (1 April to 30 June).

Data not submitted or incorrectly submitted by close of business on the due dates is considered to be 'late'. Services that do not submit their data or submit it late will receive reports with a null value.

This section provides an overview to support health services and PSRACS to access and submit the quarterly data via the department's secure online system known as the HealthCollect portal.

### How to become a user of HealthCollect

Each health service should have a representative with access to the HealthCollect portal.

If you are a new user:

**Step 1:** Visit the department's **HealthCollect website** at <http://www.health.vic.gov.au/hdss/healthcollect.htm>

**Step 2:** Click on the '**HealthCollect Portal user request form**' link.

**Step 3:** Fill in the online form and click '**Send**'.

The form cannot be saved to complete at a later time, so all details must be filled in and sent in one sitting.

If you have any queries about becoming a user of the HealthCollect Portal, please contact the department's Helpdesk:

email: [hdss.helpdesk@health.vic.gov.au](mailto:hdss.helpdesk@health.vic.gov.au)

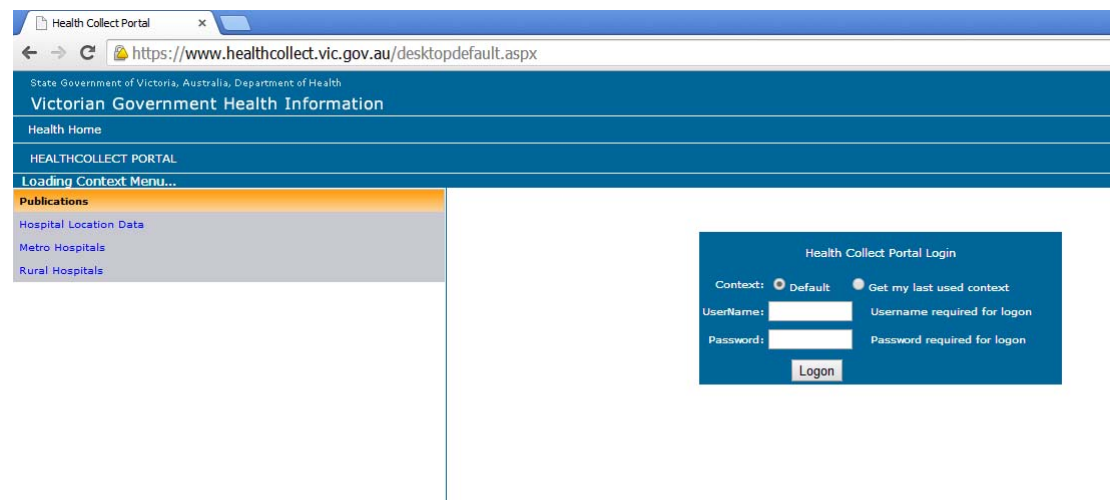
telephone: 03 9096 8595.

## How to submit PSRACS Quality Indicator data

The quarterly QI data is to be submitted via the Agency Information Management System (AIMS) which can be accessed through the HealthCollect portal.

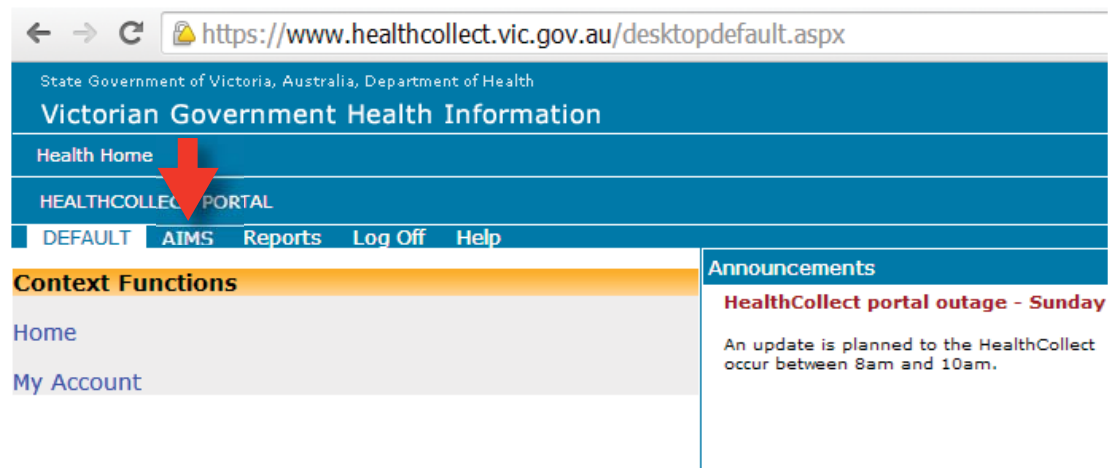
Please note that all the following steps are needed to successfully submit data.

**Step 1:** If you are an existing user, log onto the Department's Healthcollect portal at <https://www.healthcollect.vic.gov.au>.

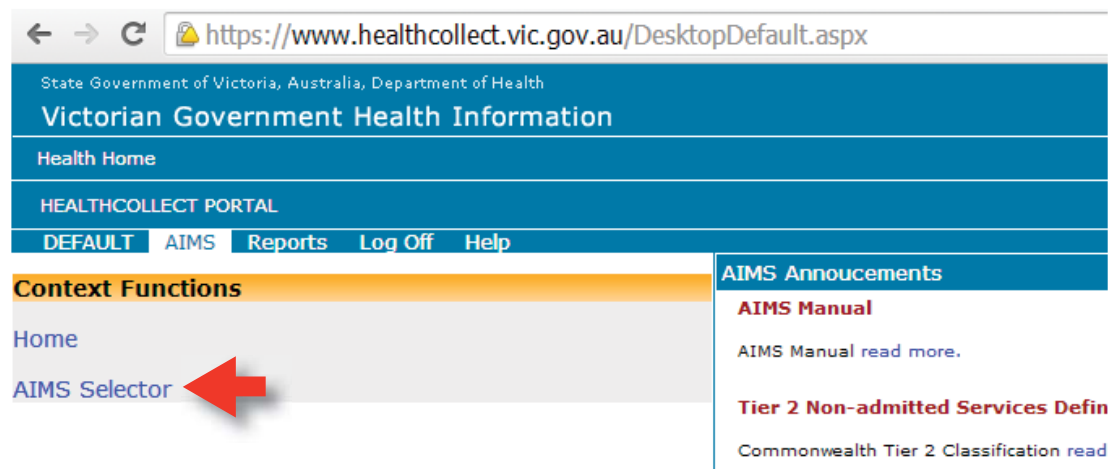


**Step 2:** Type in your user ID and password and click 'Logon'

**Step 3:** Select **AIMS** (the Agency Information Management System).



**Step 4:** Select **AIMS Selector**.



**Step 5:** Select the **financial year** (note the current financial year is the default).

**AIMS Collections**

**Select a Data Collection**

Year: 2014-15 ▼

Health Service: A Sample Aged Care Provider (ACS)

Collection: PSRACS: Quality Indicators ▼

Period: 1st Quarter ▼

Get Collection



**Step 6:** Select the **residential aged care service** you are entering data for. Each individual residential aged care service has (ACS) following their name.

**AIMS Collections**

**Select a Data Collection**

Year: 2014-15 ▼  
Health Service: • A Sample Aged Care Provider (ACS)   
Collection: PSRACS: Quality Indicators ▼  
Period: 1st Quarter ▼  
Get Collection

**Step 7:** Select collection **PRRACS: Quality Indicators**.

**AIMS Collections**

**Select a Data Collection**

Year: 2014-15 ▼  
Health Service: • A Sample Aged Care Provider (ACS)  
Collection: PSRACS: Quality Indicators   
Period: 1st Quarter ▼  
Get Collection

**Step 8:** Make a selection of the **Quarter** from a drop-down list.

**AIMS Collections**

**Select a Data Collection**

Year: 2014-15 ▼  
Health Service: • A Sample Aged Care Provider (ACS)  
Collection: PSRACS: Quality Indicators ▼  
Period: 1st Quarter   
Get Collection

Step 9: Click on 'Get Collection'.

www.health.vic.gov.au

## Agency Information Management System

### Public Sector Residential Aged Care Services

#### Quality Indicators Collection

Aged Care Service: 9999      A Sample Aged Care Provider

Quarter: 1st Quarter      Year: 2014-15

Print      Calculate      Validate      Save      Submit      Completed ☒

Status: Ready

---

#### Indicator 1 - Prevalence of Pressure Ulcers

	Stage 1	Stage 2	Stage 3	Stage 4	Total	Number residents surveyed
Number of Pressure Ulcers	5	0	0	5	10	0
Comments						

---

#### Indicator 2 - Prevalence of FALLS and fall-related FRACTURES

	Total number of falls	Number of fractures resulting from falls
	2	0
Comments	uiyuyui	

---

#### Indicator 3 - Incidence of use of physical restraints

Definition A: Number of uses of physical restraint (definition A) observed

	Total
Total number of uses of physical restraint (as per Part A definition)	0
Comments	

---

List B: Number of uses of physical restraint (List B) observed

	Total
Total number of uses of physical restraint (as per List B definition) observed	0
Comments	

---

#### Indicator 4 - Incidence of residents using 9 or more different medicines

	Number of residents surveyed	Number of residents using 9 or more different medicines
	0	0
Comments		

---


#### Indicator 5 - Prevalence of unplanned weight loss

	Number of residents whose weight was monitored	Number of residents who experienced significant unplanned weight loss during the quarter
	0	0
		Number of residents who experienced unplanned weight loss over three consecutive months
	0	0
Comments		

---

Return to top of page to check Completed box and Submit form.

Department of Health, Victoria, Australia



**Step 10:** Enter your data for each of the **15 boxes** on the collection form. Remember to enter data in all required boxes and add comments where necessary.

When data entry is finished click on the '**Calculate**' key.

Click on the 'Validate' key and respond to any comments.

If your data is final you must tick the '**Completed**' box or else it will not be uploaded for processing.

**Note:** The AIMS quality indicator submission form will be updated in mid-2015 to accommodate additional pressure injury measures (unstageable pressure injury and suspected deep-tissue injury). Until this change is made, any unstageable pressure injury or suspected deep-tissue injury should be entered in the comments section for pressure injuries.

www.health.vic.gov.au

## Agency Information Management System

Public Sector Residential Aged Care Services

### Quality Indicators Collection

Aged Care Service: 9999      A Sample Aged Care Provider

Quarter: 1st Quarter      Year: 2014-15

Print      Calculate      Validate      Save      Submit      Completed ☒

Status: Ready

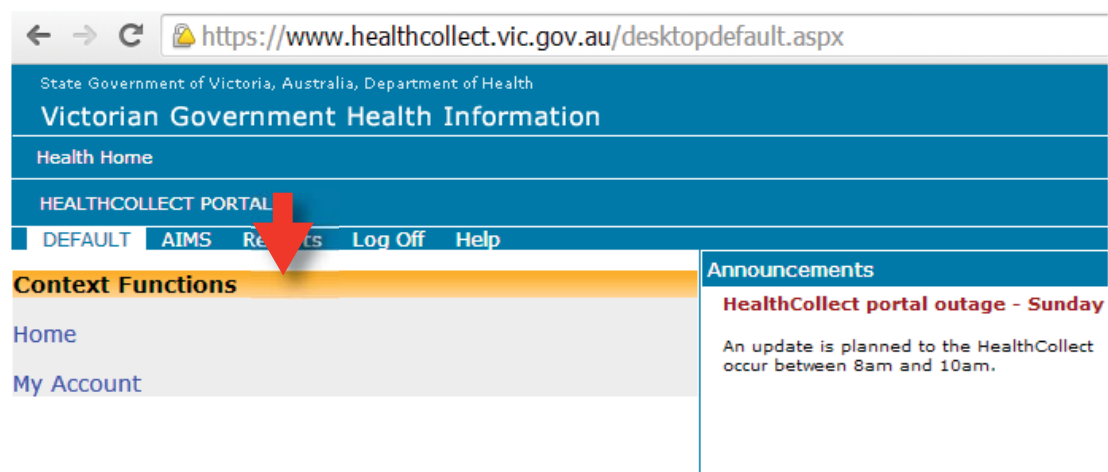
**Step 11:** If you only partially complete the data, you may choose to save what you entered by clicking on the **Save** button. This will not submit the data for processing.

If you wish to keep a hard copy of your data as entered, print a copy by pressing the '**Print**' key on the top left of the data entry page. You must save your data before printing to avoid losing any data entered.

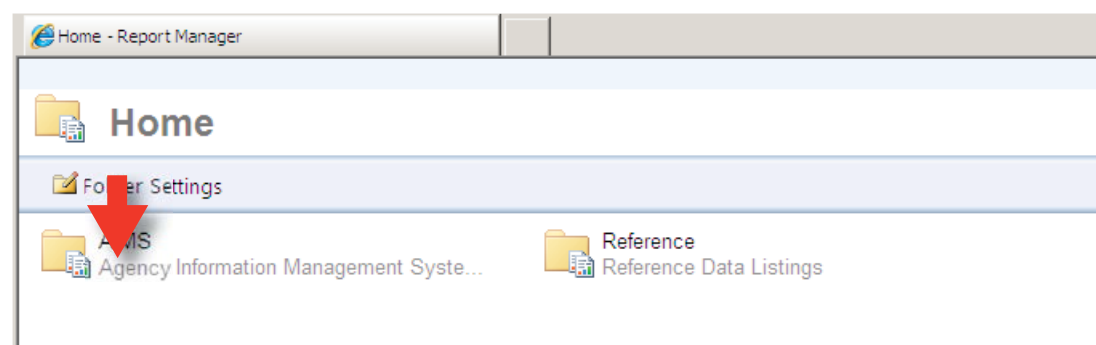
**Step 12:** Finally, '**Submit**' your data by clicking on the submit button.

## How to print a summary of your data

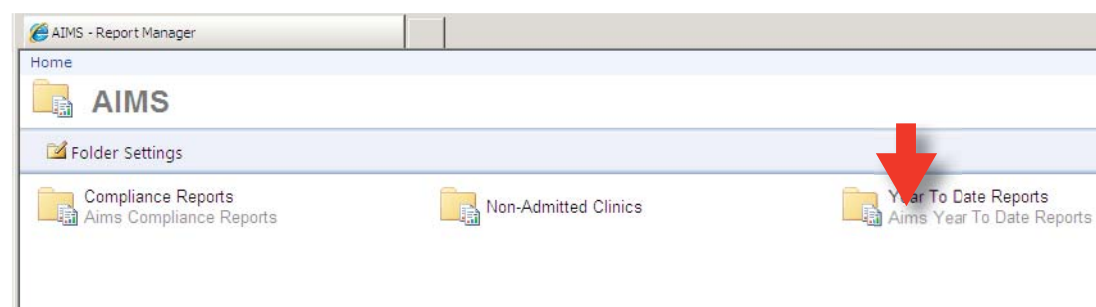
**Step 1:** In the Healthcollect portal, select the 'Reports' tab.



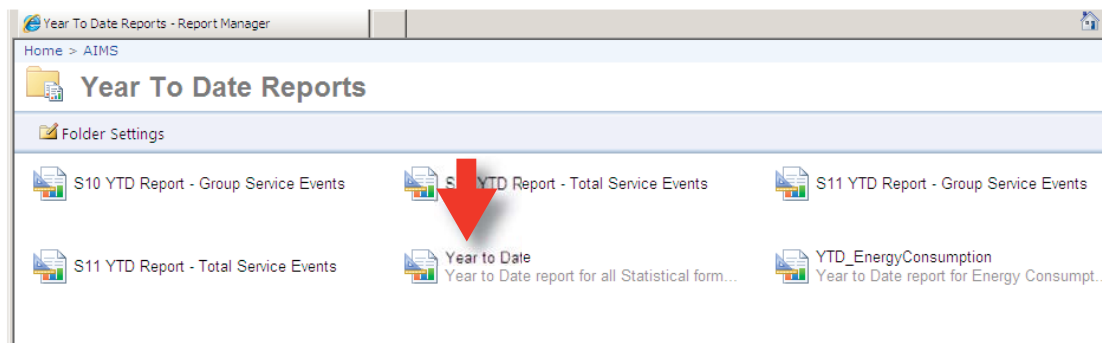
**Step 2:** Select 'AIMS'.



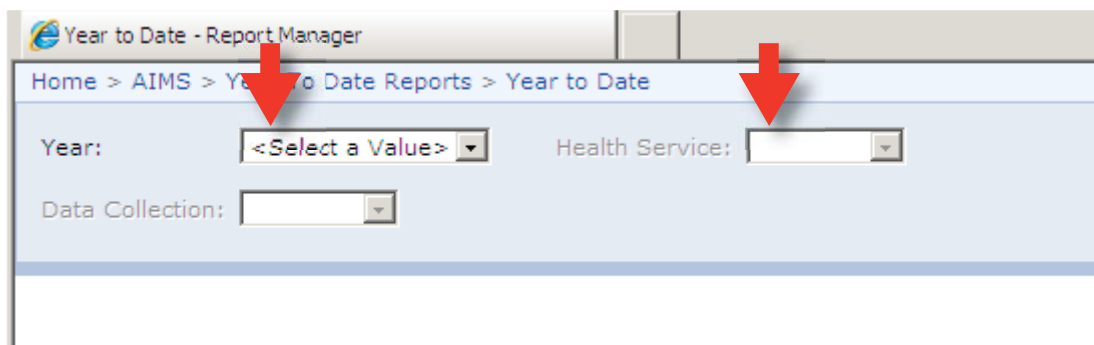
**Step 3:** Select 'Year To Date Reports'.



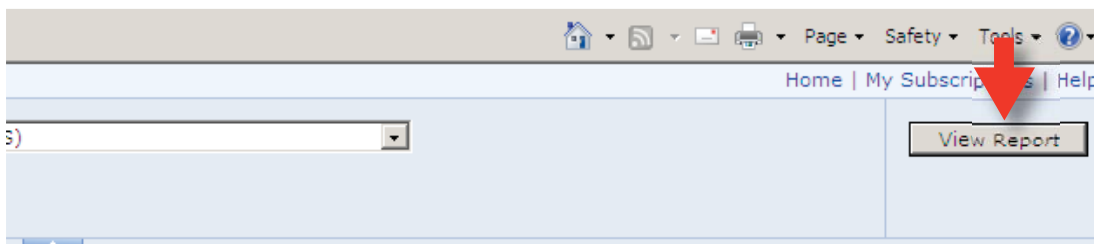
**Step 4:** Select 'Year To Date'.



**Step 5:** Select financial **Year** and the **Residential aged care service** you want a report for. Each individual residential aged care services has (ACS) after its name.



**Step 6:** Select the **PSRACS Data Collection** and click on the **View Report** button.



**Step 7.** The report generated can then be exported to Excel or can be converted to a PDF for printing.

## 2.4 Quality indicator reports

This section provides an overview of the suite of reports made available from 2014–15 Quarter 1 data. Services will also continue to receive the data in the past reporting format.

The department's Quality Improvement Unit collates, calculates and summarises QI information for each PSRACS and the Victorian PSRACS state rates. Each health service and PSRACS receives a series of reports from the department about the five QI's each quarter.

It is the responsibility of services to monitor and determine the most appropriate response to the data as a part of quality care provision and service improvement.

The reports are issued to nominated contacts for each service. To change the contact person, please contact:

Ageing and Aged Care Branch Quality Improvement Unit  
email: [quality.indicators@health.vic.gov.au](mailto:quality.indicators@health.vic.gov.au)  
telephone: 03 9096 0908.

There are three different types of reports sent to services targeted at boards and executives, management and staff, and consumers.

### 1. A detailed report for each of the five indicators

This report supports management and staff to monitor and improve resident care.

### 2. Summary report

This report provides high-level information for health service boards and executives. All QI data is summarised on one page for each PSRACS, as well as an aggregated summary report of all PSRACS operated by each health service.

### 3. Consumer report

The consumer report provides easy-to-understand information for residents, their families and advocates.

The indicator reports are also a great tool for engaging with general practitioners and contracted allied health professionals who attend the service.

## Detailed quality indicator reports

Five separate charts for each indicator group.

### Real numbers

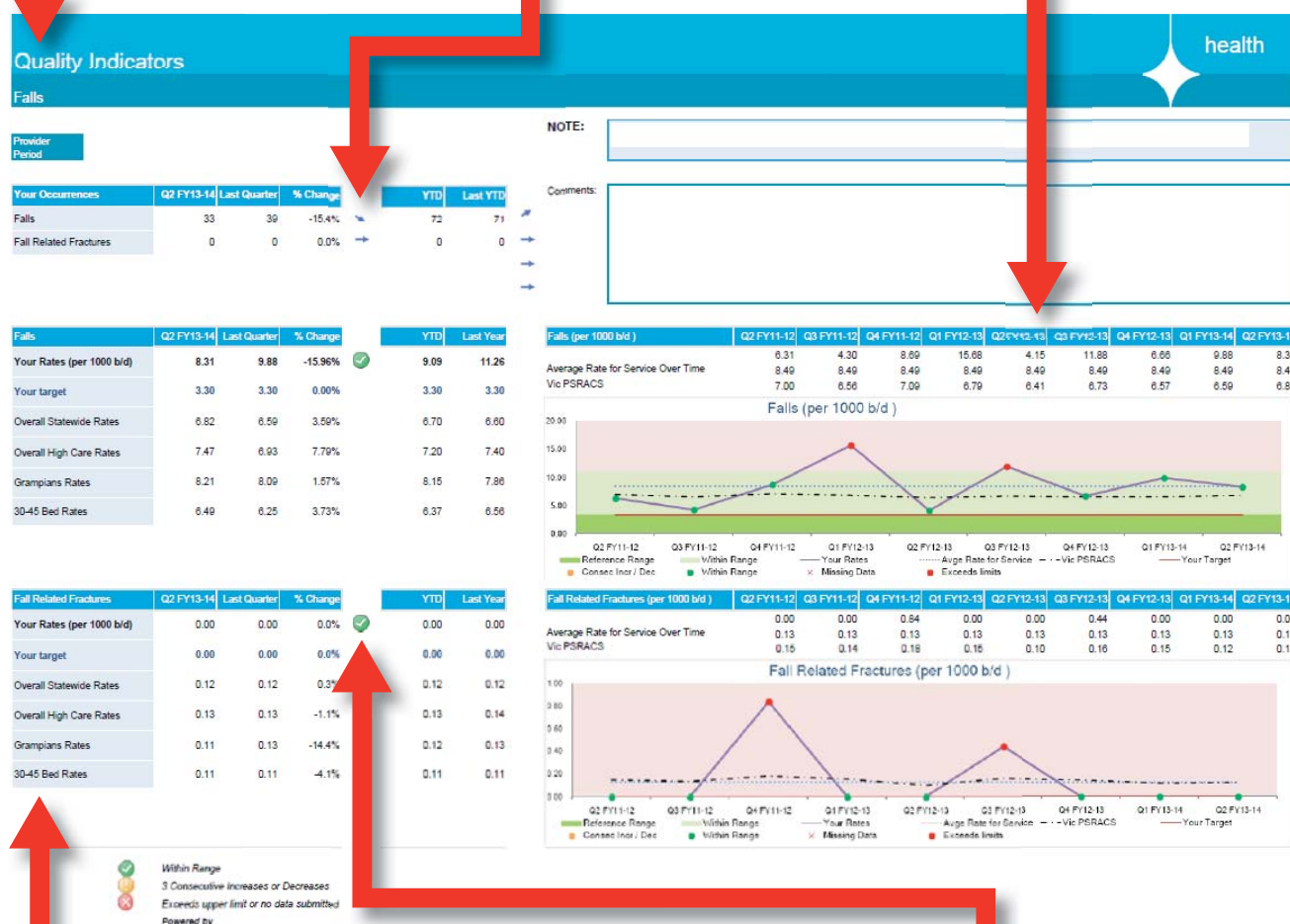
With comparisons to last quarter and the year-to-date complete with a pre-calculated percentage change. Blue arrows show increases and decreases.

### Quality monitoring charts

A number of features are built into the QMC that will indicate positive or negative trends including:

- your service rate and the state rate
- the reference range target and the upper limit
- trigger points which can prompt review or action.

For more on quality monitoring charts see the quality monitoring chart section below.



Compare your performance with the PSRACS state rate and with other services in your region or services with similar numbers of places.

Traffic light indicators allow you to evaluate this quarter's results at a glance.

## The detailed reports for each indicator

The detailed QI reports support management and staff to better use their quality indicator data for each PSRACS.

This includes monitoring and responding to the data as a part of quality care provision and service improvement.

Each detailed report includes:

- a separate report for each of the five indicators
- real number comparisons
- quality monitoring charts (QMC) to support analysis against the reference ranges and the PSRACS state rate
- comparisons with a range of rates, including like services, regional services and high and low level care services
- traffic light icons to indicate where results fall within reference ranges, or if a trigger point has been reached to prompt a review of a trend.

## Compare your performance

The reports present a PSRACS rate (per 1,000 bed days) together with additional rates for comparison to support greater interrogation of your data including:

- the state rate
- high/low comparison
- regional comparison (with all services in your region)
- similar-sized service comparison (grouped by bed size).

Services can compare quarterly data with average 'year to date' results, and compare current quarter's results with the same quarter last year.

## Assess results at a glance

All comparison rates include a traffic light icon to provide an indication of results and issues that may require closer monitoring or a response by each service.

- **Red:** result exceeds the upper limit of the reference range
- **Amber:** three consecutive increases or decreases constitute a trigger point
- **Green:** the result is within range.



## Quality monitoring charts

The QMC show a graphical representation of:

- PSRACS rate
- state rate
- average rate for your service (over the nine quarters shown on the graph)
- reference ranges
- your target, if you choose to enter one.

See page 26 for more information on QMC.

## The summary quality indicator reports

Health service boards and executives have governance and leadership responsibility for monitoring and determining responses for QI data as a part of quality care provision and service improvement.

The summary reports provide high-level information for use by health service boards and executives.

All the QI data is summarised on one page for both each PSRACS, as well as all the PSRACS operated by each health service.

Each of the summary reports compares the current quarter's data to:

- last quarter
- a health service determined target
- the state rate.

The summary reports also graphically represent the PSRACS data over the last nine quarters and includes traffic light icons which show your results at a glance.

Provider  
Period

## Benchmark

	Q1 FY13-14			YTD			Prior Qtr Change: Q4 FY12-13			All PSRACS		
Your Rates (per 1000 bed days)	Actual	Target		Actual	Target		Actual	% Change		Last 9 Quarters	Q1 FY13-14	YTD
Pressure Injuries Stage 1	0.24	0.00	⊗	0.24	0.00	⊗	0.72	-66.7%	T		0.49	0.49
Pressure Injuries Stage 2	0.24	0.00	⊗	0.24	0.00	⊗	0.24	0.0%	T		0.40	0.40
Pressure Injuries Stage 3	0.00	0.00	⊙	0.00	0.00	⊙	0.00	0.0%	T		0.05	0.05
Pressure Injuries Stage 4	0.00	0.00	⊙	0.00	0.00	⊙	0.00	0.0%	T		0.04	0.04
Falls	7.16	3.30	⊗	7.16	3.30	⊗	7.15	0.0%	T		6.59	6.59
Fall Related Fractures	0.24	0.00	⊗	0.24	0.00	⊗	0.00	23.9%	T		0.12	0.12
Intent to Restrain	4.29	0.00	⊗	4.29	0.00	⊗	3.58	20.1%	T		0.77	0.77
Physical Restraint Devices	3.58	0.00	⊗	3.58	0.00	⊗	3.58	0.0%	T		0.52	0.52
9 or more medicines	3.58	2.10	⊗	3.58	2.10	⊗	2.38	50.1%	T		4.10	4.10
Unplanned Weight Loss (Consecutive)	2.62	0.20	⊗	2.62	0.20	⊗	1.91	37.6%	T		0.88	0.88
Significant Weight Loss (> 3 Kgs)	0.24	0.00	⊗	0.24	0.00	⊗	0.95	-75.0%	T		0.67	0.67

Traffic lights signal your performance against your target.

See your last nine quarters graphically represented.

## The consumer quality indicator reports

Seven reports have been designed specifically for residents, their families and advocates about five important aspects of care:

- pressure injuries (1 report)
- falls and fall-related fractures (2 reports)
- physical restraint of residents and equipment for restraint (2 reports)
- use of nine or more medications (1 report)
- unplanned weight loss (1 report).

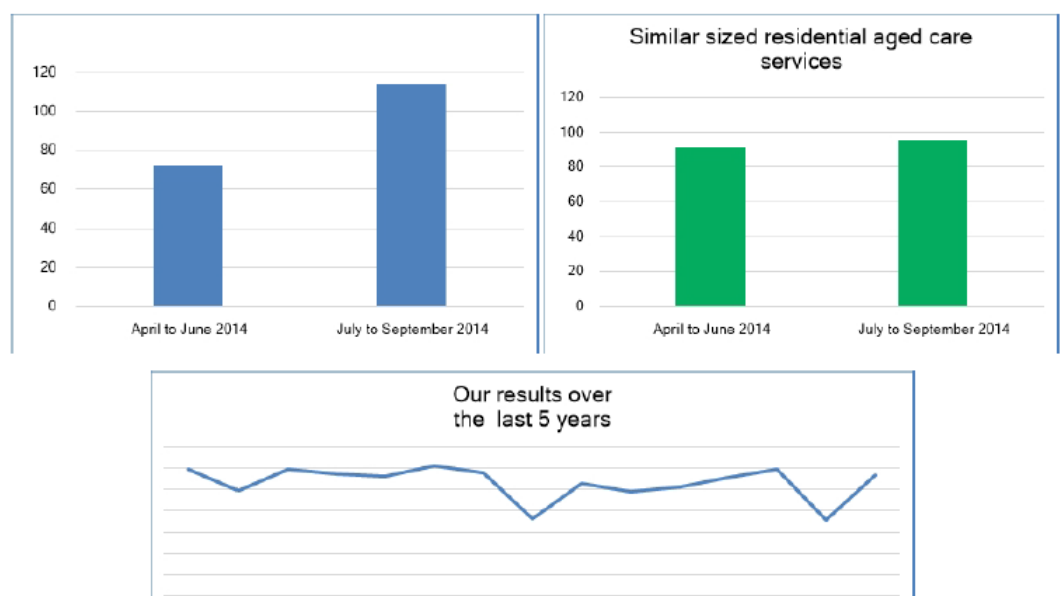
The information is shown in easy-to-understand graphics with real numbers rather than rates. The reports also show comparative information with other similar-sized services and results over time.



### Falls at

#### Results for July to September 2014

114 Times where residents fell in the last three months  
This was more than for April to June 2014



## 2.5 Analysing quality indicator data

The quarterly QI reports are designed to support health services and PSRACS to analyse and respond to their results.

This section provides an outline of how PSRACS can analyse their data to assess their performance and respond to the results.

The formula used to calculate the quality indicator rate is

$$\text{Rate} = \frac{\text{Raw number of the measure being controlled}}{\text{Bed days for quarter}} \times 1000$$

Note: bed days for the quarter counts the total number of occupied bed days over the quarter.

Using the common denominator of rate per 1,000 bed days means services of different sizes can easily compare their performance.

### Data integrity and validation

Reliable definitions and data sources are central to providing useful information. Boards, executives, managers, staff, residents and their families must have confidence that the QI data is accurate.

This requires mechanisms to check the reliability and accuracy of collected data. Section 3 provides some guidance for each of the indicators.

Questions for services include:

***Are staff interpreting and collecting the QI data in the same way?***

***What mechanisms are in place to check the accuracy of the data?***

***How are staff supported to understand the importance of data accuracy and the QI program?***

We tend to expect that results from the QI analysis will give us a clear answer. This is not so. There are no right or wrong answers. We must always interpret the data to determine what it means. During this process, remember that QIs are just one tool to reflect on current practice for improving care. This information always needs to be considered in context with other available information to interpret the results.

When interpreting the QIs consider:

- limitations in data collection methods. Poorly collected data may be misleading
- other information that can add to the 'story'. Remember that indicators are only one aspect of evaluating care
- internal targets and benchmarks

- any external comparisons and benchmarks
- recommended reference ranges for each of the indicators.

## Reference ranges

Evidence-based reference ranges<sup>2</sup> have been developed for each of the QIs to enable each health service and their PSRACS to interpret their QI rates. The reference ranges enable services to:

- move beyond ‘the average’ towards care excellence
- track their individual performance for each QI
- identify areas that require further investigation and/or improvement
- compare their performance with all PSRACS in Victoria – within regions, by size and resident characteristics.

The reference ranges have been developed based on the evidence from the available literature and in partnership with academics, experts and PSRACS. The process also involved statistical analysis of the QI data by the University of Melbourne Statistical Consulting Centre.

The reference ranges identify a target and upper limit. A ‘zero tolerance’ reference range indicates that any incidence or prevalence of a particular event may be significant and require review and appropriate response. The recommended reference ranges are presented in the table below.

Recommended reference ranges		
Indicator	Lower target rate (per 1,000 occupied bed days)	Upper limit rate (per 1,000 occupied bed days)
<b>Pressure injuries</b>		
Stage 1	0	1.2
Stage 2	0	0.8
Stage 3 and 4	0 (zero tolerance)	0 (zero tolerance)
<b>Falls</b>		
Falls	3.3	11
Falls resulting in fractures	0 (zero tolerance)	0 (zero tolerance)

<sup>2</sup> The reference ranges were developed by the department, in conjunction with Campbell Research and Consulting and public sector residential aged care providers. For further information refer to research report at: [www.health.vic.gov.au/agedcare/publications/quality\\_ranges](http://www.health.vic.gov.au/agedcare/publications/quality_ranges).

Recommended reference ranges		
Indicator	Lower target rate (per 1,000 occupied bed days)	Upper limit rate (per 1,000 occupied bed days)
<b>Physical restraint</b>		
Restraint A	0 (zero tolerance)	0 (zero tolerance)
Restraint B	0 (zero tolerance)	0 (zero tolerance)
<b>Use of medicines</b>		
9+ medicines	2.1	3.5
<b>Unplanned weight loss</b>		
Significant weight loss	0.2	1.0
Consecutive weight loss	0	1.0

## Quality monitoring charts

The detailed QI reports from the department contain quality monitoring charts for every quality indicator.

Quality monitoring charts provide a simple visual representation of the reference ranges. They contain information including:

- the PSRACS rate
- the state rate
- the average rate for your service (over the nine quarters shown on the graph)
- your target (if you entered one).

The reference ranges are displayed graphically on the chart and indicate if your individual service has a rate:

- which has reached the lower limit (dark green)
- within the reference range (light green)
- above limit rate (red)
- zero tolerance (red).

The suggested service response to data that falls in these colours is outlined below.

#### **Red zone**

Red means 'danger', 'alert' or 'flag'. Rates that occur in this zone are considered to be outside an acceptable range. Any quality indicator result in this section requires immediate review.

#### **Light green zone**

Light green means 'ok', 'not bad' or 'average'. Rates in this zone are considered to be within an acceptable range and could be considered as having potential for improvement.

#### **Dark green zone**

Dark green means 'great', 'fantastic' or 'we can relax'. Rates in this zone are considered to be where we all want care to be, approaching an optimal level of performance.

These zones provide a clear visual guide and a quick overview. However, a complete understanding of the data also requires examining trends and rates of change over time, both internally and externally using the state rate and the reference ranges.

Look to see if the results are heading in the right direction, not just whether they are in an acceptable zone. It is possible that all four results in one year are in the light green zone but getting steadily worse. In this situation, undertake a review to understand why there is a gradual worsening in performance.

The rate of change is also important and gives us a different type of information. Most changes or improvements occur gradually and are usually moderate.

A large change in the quality indicator rate – if it doubles or halves – is usually due to something other than changes to the system of care. Dramatic shifts should be investigated and explained. Often it points to an issue with the data collection.

The reports have pre-defined triggers for immediate review and action which are signified by the data point appearing in red on the chart.

**A red data point** corresponds to:

- any result above the upper limit, 'in the red zone'.

**An amber data point** corresponds to:

- three consecutive increases or decreases in the QI rate.

Investigate changes calmly and carefully. Consider the following:

***Is there an issue with how the data was gathered and reported?***

Check and get someone else to recheck.

***Is there a change in the risk profile of the PSRACS?***

For example a significant change to the care needs of residents.

***Is it an issue with care?***

This requires detailed analysis to determine where, when, how, why and a plan of how to improve.

The outcome from the review assists in forming an action plan to improve care for residents.



## 2.6 Responding to quality indicator results

Health services and their PSRACS are responsible for responding to the quarterly reports. This includes analysing results and implementing appropriate responses for improvements where indicated.

QI results need to be interpreted in the context of other available information to fully understand what they mean.

Any system within a residential care service to support resident care will be complex by definition, with multiple players contributing to achieving the overall outcome. This complexity is even greater when considering the interplay of residents' multimorbidity and chronic disease, palliative and end-of-life care needs.

### Quality indicator data model

To streamline your approach it is useful to have a documented process to respond to quarterly QI reports. Most PSRACS will already have a model they use for achieving this.

For those that do not, the model at Figure 5 may be of use.

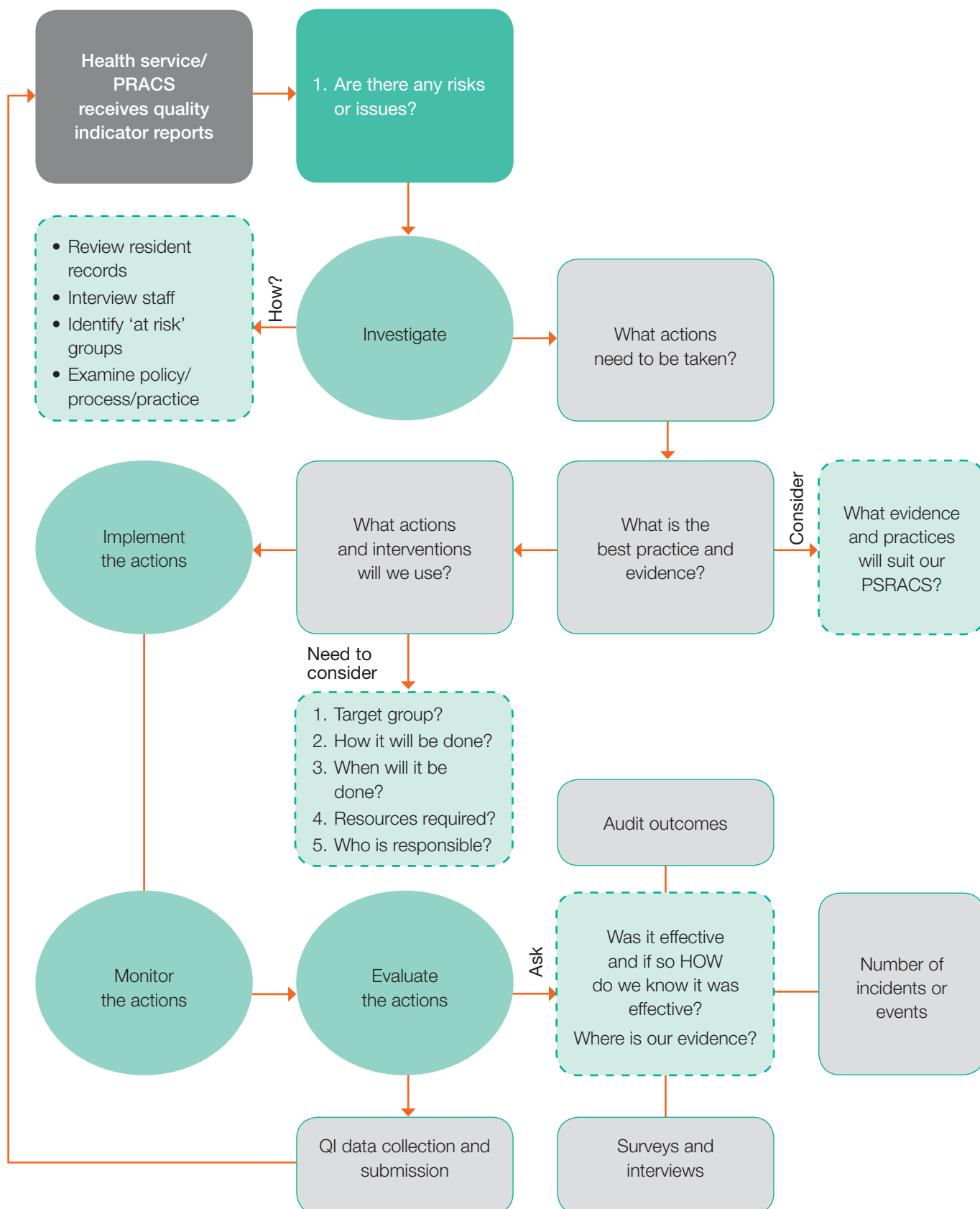


Figure 5: Responding to quality indicator results

## Monitoring trends

QI reports can be used to monitor trends and changes over time. The quality monitoring charts help services to better monitor variation over time and identify changes that need to be responded to.

QI performance results will always fluctuate. Minor fluctuations are normal and were also considered when developing the reference ranges.

A significant change (trigger for action) or a performance that is below expectations requires an explanation and further investigation. A QI rate that is in the red or 'alert' zone requires an inquiry by the PSRACS to understand why this has occurred. It is not always an indicator of suboptimal practice.

Review and explain the change by comprehensively examining how the data was collected and whether practice is in accordance with policy, procedures and accepted standards, as well as any unusual circumstances. The objective of this is to understand the situation and seek to improve care.

It is important to examine the change calmly and carefully. There are many issues that may contribute to a rate being below expectations. These may include:

***Is there an issue with how the data was gathered and reported to the department?***

When multiple staff are responsible for data collection, it is possible for each person to have a different understanding of the definition and the process for data collection.

It is important that a robust system for data collection is developed. This includes mechanisms to check the data, and train and evaluate staff responsible for data collection. Collecting QI data in the same way is important for accuracy, saves time and allows meaningful use of the QI data for service improvement.

***Is it a change in the risk profile of the PSRACS, for example are there more residents with more complex care needs?***

For example, one new resident with complex needs may experience a number of falls, which will indicate a significant increase in the QI data. Once a fall minimisation plan is implemented for this particular resident, a significant reduction of falls should occur.

If the QI rate returns to previous levels, the unfavourable result can be attributed to this uncommon event. However, if deterioration is evident in the next quarter, further investigation is required to find the cause.

***Is it a random or unusual event experienced by the PSRACS?***

For example, an external emergency such as a bushfire or flood may impact on the QI falls rate, or an internal event such as an outbreak of gastroenteritis might impact on the unplanned weight loss rate.

***Is it an issue with care?***

This may be due to ‘normal process variation’. That is, differences in how different staff deliver care can influence the QI outcome. In order to minimise this effect, focus on implementing and standardising the use of evidence-based care practice wherever possible.

***Is it an issue of suboptimal care?***

If you determine the variations are due to suboptimal care, investigate to establish where, when, how and why, and implement an improvement plan.

## Influencing factors

There are many factors that influence quality of care. These influences should be considered when reviewing the QI results. Some of these are included in the table below.

**Organisational capacity**

This relates to the effectiveness of structures and systems in place for supporting safe high-quality care through strategic planning and leadership, risk management, workforce training, professional development, competency and accountability, information management, consumer engagement and participation, team work, culture, and communication.

**Internal systems of care**

This relates to how care is planned and organised so that it is safe, effective, appropriate, integrated and coordinated, informed by evidence and person-centred so that quality of life is experienced by every resident every day.

**Incident and adverse event management and escalation**

This is about the effectiveness of systems for recognising and responding to incidents and adverse events. Safety incidents are viewed as a learning tool to improve performance. This is achieved through incident analysis and investigation, effective incident management and escalation, identification of issues that lead to incidents or were an outcome of the incident; and providing feedback to those involved in the incident.

**External bodies**

Organisations external to the PSRACS whose functions directly influence or have an effect on resident safety and care outcomes. Examples include professional registration bodies (e.g. AHPRA), accreditation agencies, the State Coroner's Office, Health Services Commissioner and Ombudsman, and Department of Social Services.

## 2.7 Communicating results

The reports received each quarter allow PSRACS and health services to communicate their results and improvement activities to internal and external stakeholders.

Indicators are a key part of an ongoing statewide quality improvement program for PSRACS. The PSRACS QI program enables services to monitor major aspects of resident care, trend their care performance over time, and benchmark against other services to target specific areas for improvement.

Services are encouraged to report their QI data, along with other data pertaining to service quality and performance, to their boards, residents, their families and regular visitors such as general practitioners and contracted health professionals as well as the broader community.

When communicating QI results, provide an interpretation of the results and your ongoing plan of action for improving care. Make sure your communication is appropriate for the audience – the board will have different needs to residents and their families.

### Public reporting

Public reporting of QIs enhances consumer and community understanding of quality in residential aged care services.

Each PSRACS owns its own QI data, and this may be shared and publicised in accordance with your organisation's public reporting guidelines.

The statewide data belongs to the department, however, and is provided to health services as a part of the indicator program. While the statewide data may be used for internal reporting, health services may not share or disseminate statewide data without specific permission from the department.

Applications to use the statewide data can be made by contacting:

Ageing and Aged Care Branch Quality Improvement Unit  
email: [quality.indicators@health.vic.gov.au](mailto:quality.indicators@health.vic.gov.au)  
telephone: 03 9096 0908.

### Quality of Care reports

As part of the department's policy and funding guidelines, all Victorian health services are required to publish an annual quality of care report each financial year.

Health services operating residential aged care services and participating in the QI program are expected to report their own data and performance over time for each of the five indicators. This gives you the opportunity to communicate your successes and improvement efforts.

## Research and publication

You are encouraged to participate in research to advance improvements in resident care, and to use and share your own QI data and performance as part of the research.

However, as for public reporting, the use of any statewide data or rates requires departmental approval. If you want to use statewide data for research purposes, publication, or for other means, you need to consult with the department. Applications to use statewide data can be made by contacting:

Ageing and Aged Care Quality Improvement Unit

email: [quality.indicators@health.vic.gov.au](mailto:quality.indicators@health.vic.gov.au)

telephone: 03 9096 0908.

## 2.8 Quality indicators and the role of the department

The Victorian Department of Health & Human Services supports and administers the QI program to ensure the QI aims are achieved.

The aims of the QI program are to:

- provide a set of meaningful and measurable indicators to assist services to monitor and improve major aspects of quality of resident care
- enable services to trend their performance over time, and benchmark against other services to identify both improvements in quality of care and target specific areas for improvements
- assist services to report publicly on the quality of care to residents and enhance community understanding of the service quality and other performance issues
- provide an evidence base to facilitate local and statewide quality improvement initiatives.

The focus of these is on building local capacity to strengthen clinical governance and service improvement within PSRACS.

In line with the aims of the QI program, the department does not use the QI outcome data of individual services as part of any performance framework.

Any interpretation and response to individual service's data, needs to consider local issues and circumstances. Each health service must ensure there is appropriate governance and leadership to monitor and respond to the QI data as part of accountability for quality care provision and service improvement.

However, the department does monitor the statewide trends over time to inform ongoing opportunities for system improvement, such as the need for further research and training.

The department's Ageing and Aged Care Branch Quality Improvement Unit is responsible for ensuring the effectiveness of the ongoing functions and improvements to the QI program. This includes ongoing collection of data and generation of reports, service support, sector communication, and maintaining and updating the QI resources.

The QI program is supported by a strategic plan and associated business rules. The Quality in PSRACS Reference Group provides strategic guidance for the implementation and evaluation of strategic projects that are implemented in PSRACS, including the QIs. The group comprises academics, experts, service providers, stakeholder groups and departmental representatives with a focus on quality.

In addition, each of the department's rural regional offices receive aggregated reports for all of the PSRACS within the region. The regions work together with the Quality Improvement Unit on any strategic improvement initiatives as part of a statewide response.

## 2.9 Quality indicators and aged care accreditation

Showing how your service uses the evidence-based aged care QIs to monitor, prioritise and review your systems of care to strategically improve service quality is an important conversation to have with Australian Aged Care Quality Agency (AACQA) assessors during any assessment contact or accreditation audit.

This includes:

- how your performance has changed over time
- what strategic goals and targets you have set for the longer term and your plan to achieve these
- the effectiveness of your systems for collecting, reporting, analysing, interpreting and responding to QI data.

Interpreting QI data is complex and multifactorial and you need to be confident about your data systems and the triggers for response. It is important to approach any data variation carefully and not jump to an instant conclusion about what the data means.

Indicators alert you to a potential problem – they do not provide data for drawing instant conclusions about the quality of care.

The QI program does not say and cannot say whether the care in PSRACS is right or wrong, or whether it is good or bad. It only tells us if rates change or are different in other PSRACS.

A less than optimal performance in a specific QI does not necessarily mean a service has a poor quality system or substandard care practices. It may be due to data collection methods or unexpected one off events.

Any actions taken as a consequence of information from the QI program need to be considered carefully. The first step is to undertake a review to better understand potential factors that may contribute to a less than ideal result. Reacting without gathering this information may lead to an unnecessary change to an established process.

Using the QI resources will help you communicate your safety and quality approach and systems for continuous improvement to AACQA assessors.

Additionally, the tips for improved QI data accuracy included in section 3 provide a strong focus on screening residents' progress notes/records. These same records are an important source of evidence used in assessment contacts and accreditation audits by AACQA when assessing resident care.

Progress notes contain information such as how changes to residents' care are identified, managed, reported, reviewed and evaluated. Having a process for the regular screening of residents' progress notes/records will help ensure care issues have been appropriately referred, followed-up and managed according to accepted policy, procedures and practice within your service.



By regularly and systematically screening residents' records you are better able to respond to any unacceptable variations or unforeseen care continuity, communication or practice issues.

This means outcomes for residents will be better, and you may reduce the risks and element of surprise about issues you may not have otherwise been aware of during an assessment contact or accreditation audit.

The table below highlights the aged care accreditation standards outcomes that are potentially positively influenced by the effective use of QIs for pressure injuries, falls and fractures, use of physical restraint, nine or more medicines and unplanned weight loss.

Quality indicator	Aged care accreditation expected outcomes potentially positively Influenced
<b>Pressure injuries</b>	2.1 Continuous improvement 2.4 Clinical care 2.5 Specialised nursing care needs 2.8 Pain management 2.9 Palliative care 2.11 Skin care 4.7 Infection control
<b>Falls and fall-related fractures</b>	2.1 Continuous Improvement 2.4 Clinical care 2.14 Mobility, dexterity and rehabilitation 3.5 Independence
<b>Use of physical restraint</b>	2.1 Continuous improvement 2.13 Behavioural management 2.14 Mobility and dexterity 3.5 Independence 3.6 Privacy and dignity 4.4 Living environment

Quality indicator	Aged care accreditation expected outcomes potentially positively Influenced
<b>Use of nine or more medicines</b>	2.1 Continuous improvement 2.4 Clinical care 2.5 Specialised nursing care needs 2.7 Medication management 2.8 Pain management 2.9 Palliative care 2.10 Nutrition and hydration 2.11 Skin care 2.13 Behavioural management 2.14 Mobility and dexterity 2.17 Sleep
<b>Unplanned weight loss</b>	2.1 Continuous improvement 2.4 Clinical care 2.5 Specialised nursing care needs 2.10 Nutrition and hydration 2.15 Oral and dental care 2.16 Sensory loss 3.9 Choice and decision making 4.8 Catering, cleaning and laundry services

## References

Department of Health 2004, *Public sector residential aged care quality of care performance indicator report*, State Government of Victoria, Melbourne, [www.health.vic.gov.au/agedcare/publications/public\\_sector](http://www.health.vic.gov.au/agedcare/publications/public_sector)

Department of Health 2009a, *Systems for managing quality in Victorian public sector residential aged care services*, State Government of Victoria, Melbourne, [www.health.vic.gov.au/agedcare/publications/literature\\_overview](http://www.health.vic.gov.au/agedcare/publications/literature_overview)

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Department of Health 2011, *Development of reference ranges for aged care quality indicators*, State Government of Victoria, Melbourne, [www.health.vic.gov.au/agedcare/publications/quality\\_ranges](http://www.health.vic.gov.au/agedcare/publications/quality_ranges)

Department of Health, *Strengthening Care Outcomes for Residents with Evidence (SCORE) standardised care processes*, State Government of Victoria, Melbourne [www.health.vic.gov.au/agedcare/services/score](http://www.health.vic.gov.au/agedcare/services/score)

Ibrahim JE, Chadwick LM, MacPhail A, McAuliffe L, Koch S, Wells Y, 2014, Use of quality indicators in nursing homes in Victoria, Australia: A cross-sectional descriptive survey, *Journal of Aging and Health*, vol 26, issue 5, Sage Publications Inc, United States, pp. 824–840.

OECD European Commission 2013, *A good life in old age? Monitoring and improving quality in long term care*, OECD Health Policy Studies, OECD Publishing, [www.oecd.org/els/health-systems/good-life-in-old-age](http://www.oecd.org/els/health-systems/good-life-in-old-age)

## Section 3: Guidance for the five indicators

## Section 3: Guidance for the five indicators

This section contains five self-contained parts with information for effectively collecting and reporting on each of the quality indicators. Each part also includes resources and evidence to support residential aged care services to monitor and improve resident care and quality of life.

### Indicator 1: Pressure injuries

With six measures related to stage 1, stage 2, stage 3, and stage 4 pressure injuries, unstageable and suspected deep tissue injuries.

### Indicator 2: Falls and falls related fractures

With two measures related to falls and falls related fractures.

### Indicator 3: Use of physical restraint

With two measures related to Intention to restrain and use of physical restraint devices.

### Indicator 4: Use of nine or more medicines

With one measure.

### Indicator 5: Unplanned weight loss

With two measures related to consecutive weight loss and significant weight loss.

---

# Indicator 1: Pressure injuries

## Objective

To monitor the proportion of pressure injuries and trends.

## Recommended reference range

### Pressure injuries per 1,000 occupied bed days

Measure	Lower target rate	Upper limit rate
Stage 1	0	1.2
Stage 2	0	0.3
Stage 3	0	0
Stage 4	0	0

Note there are no recommended reference ranges set for an Unstageable pressure injury or Suspected deep-tissue injury.

## Why monitoring pressure injuries is important

Older people are more susceptible to pressure injuries that continue to be a major and prevalent health concern.

Even though most pressure injuries are preventable, evidence shows that up to 42 per cent of people who live in residential aged care services may have a pressure injury.

Pressure injuries can develop as a result of:

- friction and shearing forces
- older age (70 per cent of pressure injuries occur in people over 70)
- aged-related changes to skin
- medication-related changes to the skin
- poor nutrition

- decreased mobility
- chronic disease
- incontinence
- restraint.

Common adverse events associated with pressure injuries include:

- death
- infection and cellulitis
- reduced physical function
- pain.

## Key facts

The risk of developing a pressure injury increases as a result of age-related changes such as changes to skin integrity, malnutrition, immobility, incontinence, impaired cognitive status and frailty.

From 2001–2003 in Australia, 923 deaths occurred as a result of pressure injury, of which 30 per cent occurred in Victoria.

Infection occurring in a pressure injury is associated with death.

## How to collect and report this indicator

### Data collection

- There are six measures to be collected assessing every resident once each quarter.
- Tell the resident about the proposed assessment and ask for their permission. If they withhold permission, note this in the 'Comments' section.
- Collect data by doing a full-body assessment of the resident. Where possible, do this as part of the resident's usual personal care.
- The survey can be conducted **either** by assessing every resident over a set period of up to 14 days, **or** by identifying an assessment date for each resident and completing the assessment on the same day each quarter.
- Record **all** observed pressure injuries.
- Assess pressure injuries using the international classification system with six categories/stages outlined in *Prevention and treatment of pressure ulcers: clinical practice guidelines* (2014), available on the website for the Australian Wound Management Association <www.awma.com.au>.
- Use the international classification system consistently and for all residents surveyed.
- If you are uncertain about the presence and stage of a pressure injury, consult with a suitably qualified person.

### Comments

To include on the data recording sheet:

- Note any unstageable pressure injury and suspected deep-tissue injury in the comments section until such time as the online submission form is updated in mid 2015 to accommodate the additional pressure injury measures.
- Note any residents admitted during the current reporting quarter, where injuries were present on admission and include in the count.
- In subsequent quarters, include these injuries in the ordinary count – no comment needed.
- The above note also applies to respite residents.
- If the pressure injury developed while the resident was away from the PSRACS, for example, while in hospital.
- Where the pressure injury relates to a resident receiving end-of-life palliative care.

### Exclusions

- Nil.
- Make sure you **include** respite residents.

#### Quick tips for data accuracy

- Collect information for the pressure injury measures through actual observation on or around the same time/date in each quarter.
- Ensure information is collected consistently. For example, two staff members independently observing a resident with a pressure injury must both correctly identify the stage of the pressure injury and report it in the same way.
- Routine incident reporting of pressure injuries through Riskman **will not** meet the collection protocols for this indicator.
- This is a point in time surveillance indicator.

## Definition of key data elements

A **pressure injury** is a localised injury to the skin and/or underlying tissue, usually over a bony prominence, as a result of pressure, sheer, or a combination of these factors.

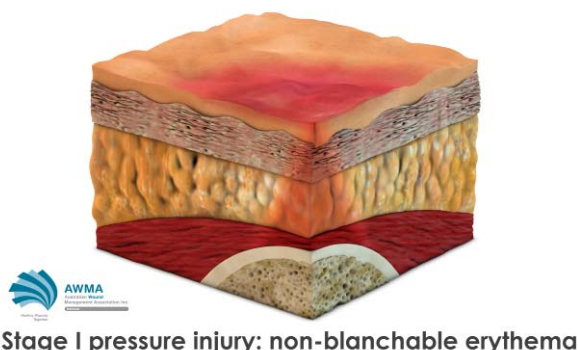
Source: Australian Wound Management Association 2014, *Prevention and treatment of pressure ulcers: clinical practice guideline*.

Previous terms used included pressure ulcer, bed sore and decubitus ulcer. In Australia, as part of the Pan Pacific region, the term pressure injury has been adopted and should be used.

## International classification system for pressure injuries

### Stage 1 pressure injury: non-blanchable erythema

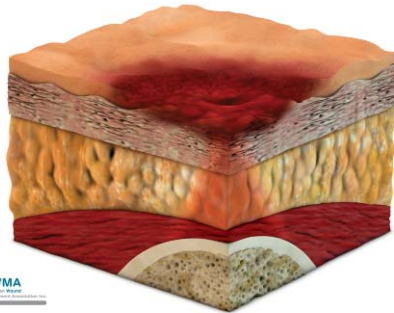
- Observable pressure-related alteration of intact skin whose indicators as compared with the adjacent or opposite area of the body may include changes in one or more of the following: non-blanchable redness of a localised area usually over a bony prominence.
- Discolouration and visible blanching may not be seen in people with darkly pigmented skin, and the colour of this pressure injury may differ from the surrounding area.
- The area may be painful, firm, soft, warmer or cooler compared with adjacent tissue.
- It may indicate an at-risk individual: someone who marks very quickly. It is a sign of risk.
- **Note:** it is easy to confuse reactive hyperaemia – skin discolouration – with a Stage 1 pressure injury.
- Reactive hyperaemia is a normal compensatory mechanism following an episode of reduced perfusion from localized pressure. Relief of this pressure results in a large and sudden increase in blood flow to the affected tissue.
- Residents who have an area of reactive hyperaemia need to be repositioned off the affected area; re-inspect the skin 30 minutes later for evidence of a Stage 1 pressure injury.





### Stage 2 pressure injury: partial-thickness skin loss

- Partial-thickness loss of dermis presenting as a shallow, open wound with a red-pink wound bed, without slough.
- It may also present as an intact or open/ruptured serum-filled blister.
- It may present as a shiny or dry shallow injury without slough or bruising (note: bruising indicates suspected deep-tissue injury).
- Do not describe skin tears, tape burns, perineal dermatitis, maceration or excoriation as Stage 2 pressure injuries.

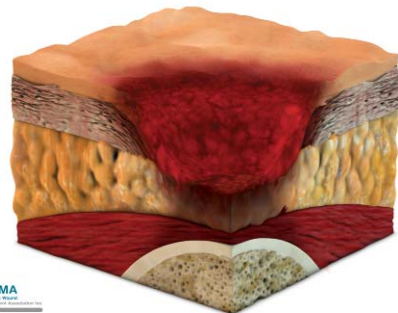


Stage II pressure injury: partial thickness skin loss



### Stage 3 pressure injury: full-thickness skin loss

- Full-thickness tissue loss where subcutaneous fat may be visible but bone, tendon or muscle is not exposed. Slough may be present but does not obscure the depth of the tissue loss. May include tunnelling and undermining.
- The depth of a Stage 3 pressure injury varies by anatomical location and general skin condition. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and Stage 3 pressure injuries can be shallow. In severely malnourished residents the lack of subcutaneous tissue will also mean a Stage 3 pressure injury may present as a shallow injury.
- Bone or tendon is not visible or directly palpable.

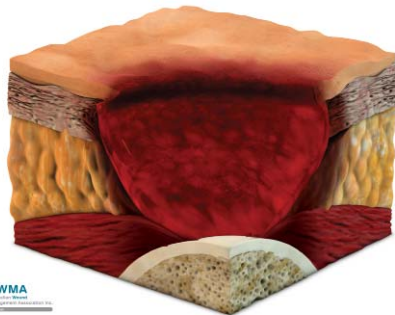


Stage III pressure injury: full thickness skin loss

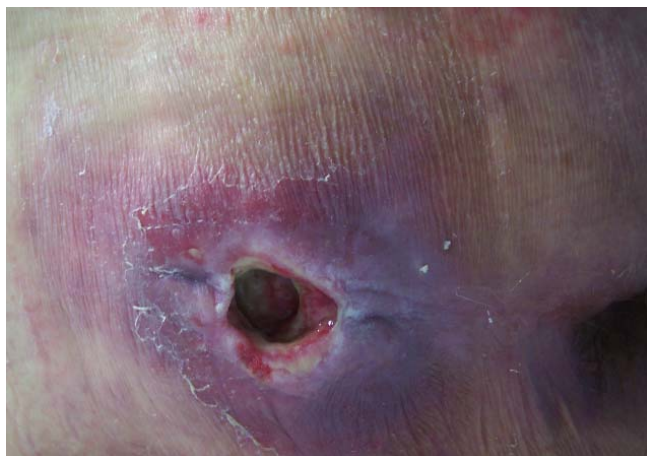


### Stage 4 pressure injury: full-thickness tissue loss

- Full thickness tissue loss with exposed bone, tendon or muscle. Slough or eschar may be present on some parts of the wound bed.
- The depth of a Stage 4 injury varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and these pressure injuries can be shallow. Stage 4 pressure injuries can also extend into other supporting structures (such as fascia, tendon or joint capsule) making osteomyelitis a serious consideration. Exposed bone or tendon is visible or directly palpable.

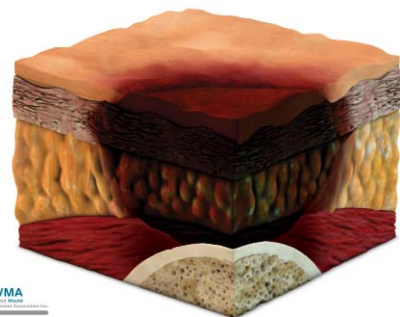


Stage IV pressure injury: full thickness tissue loss



### Unstageable pressure injury: depth unknown

- This presents as full thickness tissue loss in which the base of the pressure injury is covered by slough (yellow, tan, grey, green or brown) and/or eschar (tan, brown or black) in the pressure injury bed.
- Until enough slough or eschar has been removed to expose the base of the wound, the true depth, and therefore the stage, cannot be determined. Stable (dry, adherent, intact without erythema or fluctuance) eschar on heels serves as the body's natural biological cover and should not be removed.

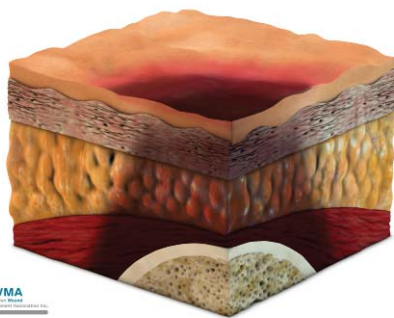


Unstageable pressure injury: depth unknown



### Suspected deep-tissue injury: depth unknown

- This is a purple or maroon localised area or discoloured, intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler compared with adjacent tissue.
- This deep tissue pressure injury may be difficult to detect in individuals with dark skin tone.
- Evolution may include a thin blister over a dark wound bed. The injury may further evolve and become covered by thin eschar. Evolution may be rapid, exposing additional layers of tissue even with optimal treatment.



Suspected deep tissue injury: depth unknown



Sources: Graphics from Australian Wound Management Association, photographs from Jan Rice WoundCare Services.

## Data recording sheet

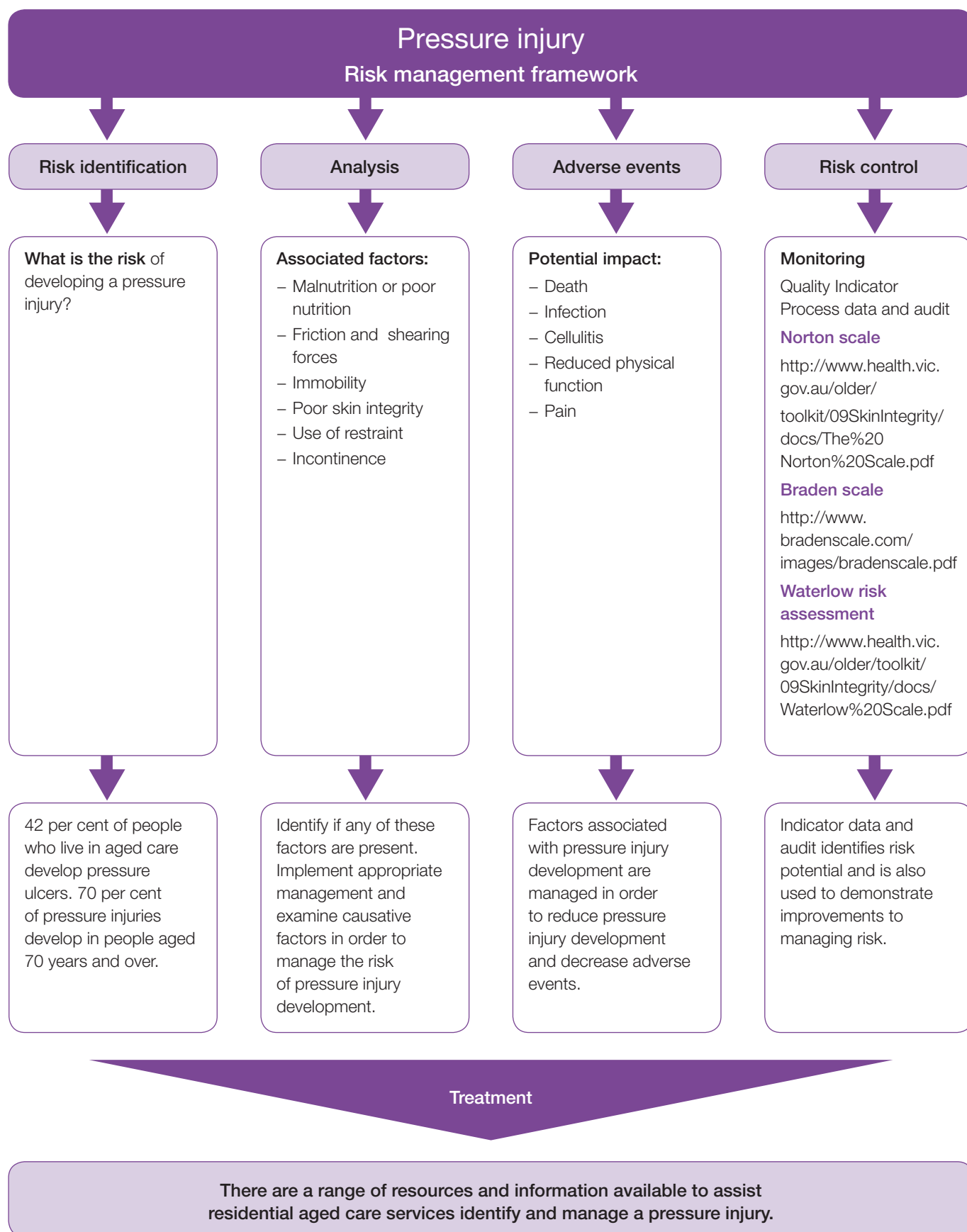
Name of service:
Reporting quarter end date:
Audit date:

### Measures 1–6: Number and stage of pressure injuries at survey

	Stage 1	Stage 2	Stage 3	Stage 4	Unstageable	Suspected deep tissue	Total injuries	Total number of residents surveyed
Number of pressure injuries								

#### Comments

- **Required** if applicable – any unstageable and suspected deep tissue injuries noted in this section until such time as the online submission form is updated in mid 2015 to accommodate the additional pressure injury measures.
- **Required** if applicable – **only for residents admitted in this quarter** – note any pressure injuries reported above that have been present since admission. For example, ‘1 x Stage 4 and 1 x Stage 3 present on admission’.
- **Required** if applicable – number pressure injuries reported above that developed while the resident was away from the PSRACS, for example, in hospital or on holiday. For example, ‘1 x Stage 2 developed while resident in hospital’.
- **Required** if applicable – number pressure injuries reported above that relate to a resident receiving end-of-life palliative care. For example, ‘3 x Stage 2 and 1 x Stage 3 relate to resident receiving palliative care’.
- **Optional** – any other relevant comments.



## Resources

A range of resources are available to assist residential aged care services identify and manage pressure injuries. There are also wound management courses available for staff.

Australian Wound Management Association website, which includes *Prevention and treatment of pressure ulcers: clinical practice guidelines* 2014:

[www.awma.com.au](http://www.awma.com.au)

Department of Health, *Pressure ulcer basics online education program*:

[www.health.vic.gov.au/pressureulcers/education.htm](http://www.health.vic.gov.au/pressureulcers/education.htm) (in the process of being updated to include the 6 stage for pressure injuries).

Joanna Briggs Institute, Best Practice information sheets '*Prevention of pressure related damage*' and '*Management of Pressure related tissue damage*' available with membership at:

[www.joannabriggs.edu.au/pubs/best\\_practice.php](http://www.joannabriggs.edu.au/pubs/best_practice.php)

Tools and resources developed for the National Safety and Quality Service Standards: Standard 8 Preventing and Managing Pressure Injuries, including Queensland Health 2012:

[www.health.qld.gov.au/psu/safetyandquality/docs/pip-audit-def.pdf](http://www.health.qld.gov.au/psu/safetyandquality/docs/pip-audit-def.pdf)

West Australian Government Department of Health wound education modules:

[www.health.wa.gov.au/WoundsWest/education](http://www.health.wa.gov.au/WoundsWest/education).



## Evidence to support this quality indicator

This indicator highlights pressure injuries as a major and prevalent health concern for older people.

There is substantial evidence and research that demonstrates the development of a pressure injury as a significant issue for older people living in residential aged care.

### Defining pressure injuries

A pressure injury as defined by the Australian Wound Management Association (2014) is 'a localised injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, shear and/or friction, or a combination of these factors'.

Pressure injury classification systems provide a consistent method of assessing and documenting pressure injuries. However determining the severity and scale of the problem, and the degree of tissue involvement and exact causal determinants has been inconsistent, with varying data and terminology used around the world.

Australian representatives have been working with many countries in order to develop the international clinical practice guideline with an international classification system using the following six categories/stages (AWMA 2014):

- Stage I pressure injury: non-blanchable erythema
- Stage II pressure injury: partial thickness skin loss
- Stage III pressure injury: full thickness skin loss
- Stage IV pressure injury: full thickness tissue loss
- Unstageable pressure injury: depth unknown
- Suspected deep tissue injury: depth unknown.

### Pressure injuries in aged care

Older people are particularly vulnerable to developing pressure injuries.

Age-related changes to skin integrity, malnutrition, chronic disease, immobility, incontinence, impaired cognitive status and frailty are issues associated with advanced age and are all cited as risks for the development of pressure injuries (EPUAP 2012; Jaul 2010; WOCNS 2010; NPUAP 2009; Holm et al. 2007; Santamaria et al. 2005; Bates-Jensen 2001).

The Victorian Department of Health's *Pressure ulcer point prevalence survey* (PUPPS 3) conducted in 2006 demonstrated that out of 1,222 patients identified as having pressure injuries, 988 (80.85 per cent) were 60 years of age or older.

The incidence of pressure injuries in Australian nursing homes ranges between 26–42 per cent (Santamaria et al. 2009). Bates-Jensen (2001) reports an incidence of 24 per cent among nursing home residents (USA).

### Adverse clinical events and pressure ulcers

The most significant adverse clinical event associated with pressure injuries is an increased risk of mortality.

The Victorian Quality Council (VQC) points out in its 2004 report *Pressure ulcers: a cause for concern* that from 2001–2003, 923 deaths occurred as a direct or indirect result of a pressure injury. Thirty per cent of these deaths occurred in Victoria.

Authors such as Jaul (2010), Takahashi (2008), Capon et al. (2007), Santamaria et al. (2005), Person et al. (1999) all concur that pressure injuries significantly increase an older person's risk of mortality.

Common causes of death as a result of pressure injury development include osteomyelitis<sup>1</sup> and septicaemia (Jaul 2010; Bates-Jensen, 2001). Osteomyelitis is an infection of the bone and may be acute or chronic (Skinner 2006).

Wound infection is also an adverse clinical event associated with pressure injury. Infection can cause wound deterioration and stop the pressure injury from healing (Whitney et al. 2006), which may in turn reduce mobility and physical function, and increase the risk of morbidity.

It may also increase the risk of developing cellulitis (Moore and Cowman 2007). The risk of infection increases if necrotic tissue is present in the pressure injury. Necrotic tissue forms an environment that promotes bacterial growth (Bluestein and Javaheri 2008; Bates-Jensen and MacLean, 2007 and Maklebust and Sieggreen 2001). Infection most commonly occurs in Stage 3 and 4 pressure injuries as they are open wounds and necrotic tissue may be present (Moore and Cowman, 2007).

Pain is also cited as an adverse clinical event associated with pressure injury development (Jaul 2010; Bates-Jensen and MacLean 2007).

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<sup>1</sup> A pressure ulcer can provide an inlet for bacteria to enter the body and cause osteomyelitis.

## Causes of pressure injuries

There are a number of risk factors that contribute to the development of pressure injuries.

Friction and shearing are two common terms often used to describe how pressure injuries occur. Friction refers to two surfaces moving across each other, the result being the formation of a wound. This commonly occurs when a person is pulled across bed linen. Moisture also increases friction.

Shearing occurs when two surfaces move parallel to each other for example when a person is positioned upright in a bed they tend to slide downward and their skin and bed linen shear to cause a wound (Dealey 2005).

Significantly for residential aged care services, older age is frequently cited in the available evidence as a common risk for the development of pressure injuries. Jaul (2010) states that 70 per cent of pressure injuries occur in people who are aged 70 years or older.

Aside from the incidence of comorbidities and chronic diseases associated with older age that may contribute to pressure injury development, there are specific age-related changes to skin which also increase the risk of occurrence (Jaul 2010; Dealey 2005; and Maklebust and Sieggreen 2001).

These changes include:

- loss of skin elasticity
- loss of collagen
- thinning of subcutaneous tissue
- reduced muscle mass
- reduced perfusion and oxygenation of tissue
- increased fragility and dryness.

There are a number of other reasons why pressure injuries occur, all of which are relevant to residential aged care.

These reasons are summarised in the following table.



Issue	Relevance to pressure injury development and residential aged care
<b>Nutrition</b>	<p>Poor nutrition or malnutrition can reduce skin elasticity and lead to anaemia, which in turn reduces the flow of blood and oxygen to tissues. This can lead to the development of pressure injuries.</p> <p>Malnutrition also reduces muscle and fat that normally protect or ‘pad’ bony prominences. The reduced protection and increased exposure of bony prominences can lead to a greater risk of developing pressure injuries.</p> <p>In addition, residents with a pressure injury who do not have adequate nutritional intake will have delayed wound healing. Nutrients supplied may only maintain current health and not be sufficient to build new tissue, and the pressure injury may worsen.</p>
<b>Mobility</b>	<p>Residents with reduced mobility, and who are bed or chair-bound, have an increased risk of pressure injury development.</p> <p>They have greater exposure to friction and shearing forces, as well as direct pressure against skin surfaces.</p> <p>In addition, residents with reduced mobility may not be able to reposition themselves. Reduced mobility is cited in the evidence as the greatest risk for pressure injury development.</p>
<b>Comorbidities and chronic disease</b>	<p>The presence of chronic disease and comorbidities may increase residents’ need for bed rest and can reduce mobility.</p> <p>Physiologically (depending on the type of disease or illness) blood flow and oxygenation to tissues may be reduced, muscle wastage may occur and the resident may also become malnourished.</p>
<b>Incontinence</b>	<p>Incontinence may be a risk factor for pressure injury development, particularly urinary incontinence which results in skin maceration leading to an increase in friction against the skin.</p> <p>Frequent washing of the skin due to urinary and faecal incontinence may reduce the skin’s natural oils and lead to dryness.</p> <p>Washing with soap removes the natural oils, so soap alternatives are often suggested.</p>
<b>Restraint</b>	<p>Residents who are restrained either physically or chemically have an increased risk of pressure injury development due to a decrease in mobility.</p>
<b>Contracture</b>	<p>Pressure redistribution means spreading the weight (load) over the largest surface area.</p> <p>If a person becomes contracted, then the surface area is reduced, thus predisposing them to higher pressures.</p>

Adapted from: Elliot 2011; Amir 2010; AIHW 2010; Jaul 2010; Dealey 2005; Barrois et al. 2008; Bluestein and Javaheri 2008; Holm et al. 2007; Whitney et al. 2006; AIHW 2003; Baumgarten et al. 2003; Wilkes et al. 1996.

### Why are these issues significant?

- Approximately 40 per cent of aged care residents experience unplanned weight loss and malnourishment.
- Thirty-three per cent of aged care residents in Australia need a high level of assistance with activities of daily living such as mobility.
- Up to 65 per cent of aged care residents have two or more chronic diseases.
- Approximately 80 per cent of aged care residents in Australia experience incontinence.
- Twelve to 49 per cent of aged care residents experience physical restraint.

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# Indicator 2: Falls and fall-related fractures

## Objective

To monitor the proportion of falls and fall-related fractures and trends.

## Recommended reference ranges

### Falls and fall-related fractures per 1,000 occupied bed days

Measures	Lower target rate	Upper limit rate
Falls	3.3	11
Falls resulting in fractures	0	0

## Why monitoring falls and fall-related fractures is important

Falls can be prevented. However up to 50 per cent of older people living in residential aged care services fall every year, with 40 per cent experiencing recurrent falls.

Residents are also up to five times more likely to fall than those who live in the community. The proportion of residents with a diagnosis of dementia who fall has been reported as even higher.

Approximately 20–32 per cent of older people who fall will experience a fall-related fracture. Adverse clinical events that can occur as a result of falls include:

- death
- fracture
- decreased independence
- increased functional decline
- anxiety and fear of falling.

## Key facts

84.8 per cent of fall-related deaths occur in people who are aged 70 years and over.

Dementia, stroke, diabetes and Parkinson's disease are common conditions associated with high risk of falls.

The hip is the most common site of fall-related fracture.

People aged 80 years or more are at the highest risk of falls and fractures. This age group represents the highest proportion of residents in aged care.

## How to collect and report this indicator

### Data collection

- There are two measures to be collected by auditing resident records and incident reports every quarter.
- If a resident is found on the floor or ground, assume they have fallen (unless they are cognitively unimpaired and indicate that they put themselves there on purpose).
- If a fall resulted in more than one fracture, record all fractures.

### Comments

To include on the data recording sheet:

- Include comments if the number of falls or fractures is heavily influenced by one or two individuals or by a specific incident.

### Exclusions

- Falls and fractures that occur while the resident is away from a residential aged care facility and is not under direct supervision of residential aged care staff.
- Make sure you **include** respite residents.

### Quick tips for data accuracy

- Look beyond RiskMan incident reports to ensure your data is accurate.
- Complete a quick review of each resident's progress notes over the quarter and look for any entries that could indicate the occurrence of a fall – check these correlate with RiskMan entries. This could be done monthly to make the process easier to manage at the end of the quarter.
- Fractures may be identified after a fall has already been reported. Review the progress notes of each resident who has had a fall within the quarter to make sure that all fractures have been captured and recorded.

### Definition of key data elements

A **fall** is an event that results in a person coming to rest inadvertently on the ground or floor or other lower level (World Health Organization, and Safety and Quality Council *Guidelines for preventing falls and harm from falls in older people*.)

A **fracture** is traumatic injury to a bone in which the continuity of the bone tissue is broken (Mosby's *Medical nursing and allied health dictionary*, 2002, 6th edition).

Note that a fall-related fracture can be located on any area of the individual's body, and is not exclusive to areas traditionally associated with falls such as the hip.

## Data recording sheet

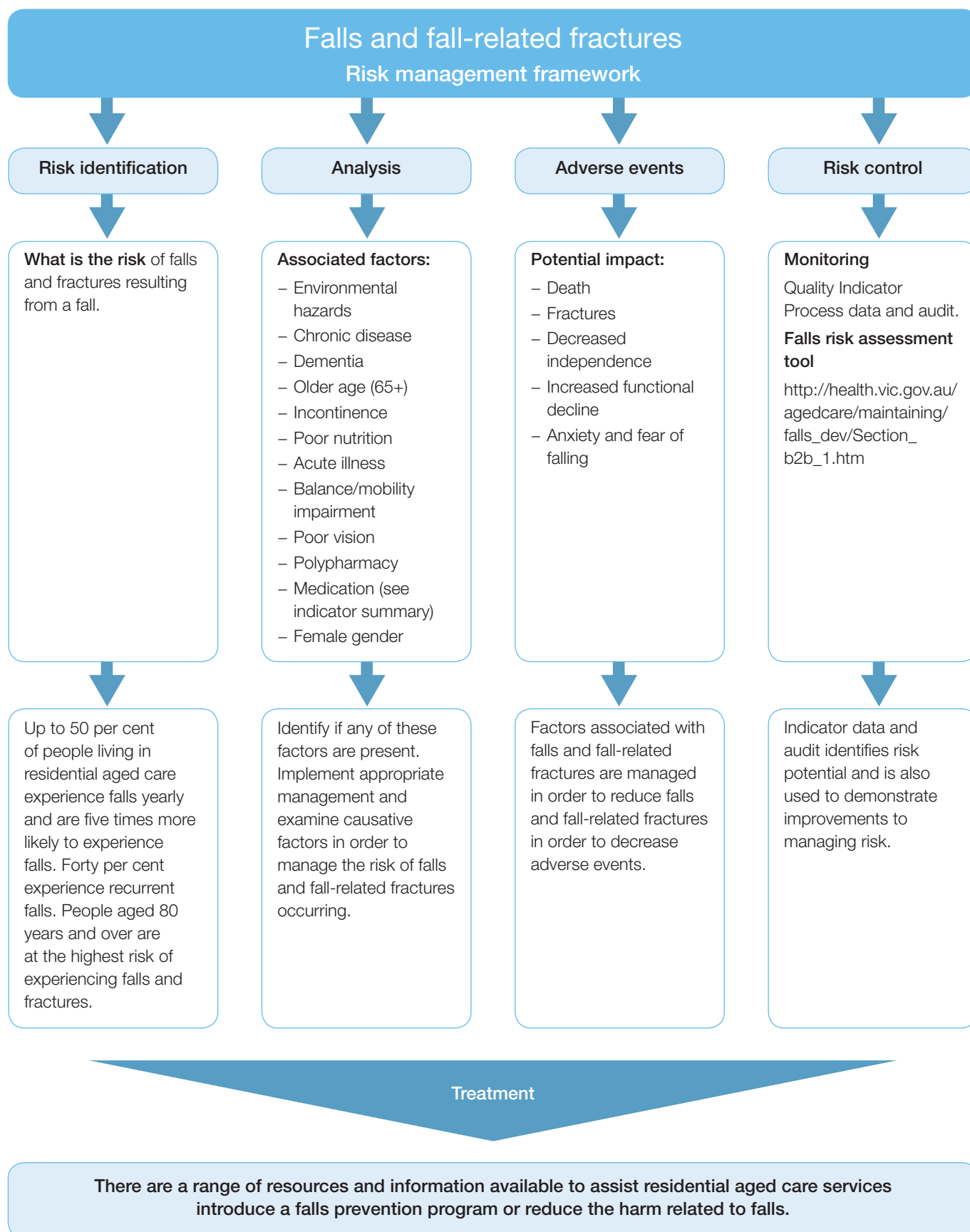
Name of service:
Reporting quarter end date:
Audit date:

### Measure 1 and 2: Falls and fall-related fractures

Total number of falls	Number of fractures resulting from falls

**Comments**

- **Required** if applicable – note if number of falls or fractures is heavily influenced by one or two individuals or a specific incident, for example one resident fell 13 times with two fractures.
- **Optional** – any other comments.



## Resources

A range of resources and information are available to assist residential aged care services to introduce a falls prevention program or reduce the harm related to falls and the fear of falling.

Australian Council on Safety and Quality in Health Care, especially *Preventing falls and harm from falls in older people: best practice guidelines for Australian residential aged care facilities* (2009):

[www.safetyandquality.gov.au/our-work/falls-prevention/falls-prevention-rac](http://www.safetyandquality.gov.au/our-work/falls-prevention/falls-prevention-rac)

Department of Health, Victorian Falls Prevention Program:

[health.vic.gov.au/agedcare/maintaining/falls\\_dev/index.htm](http://health.vic.gov.au/agedcare/maintaining/falls_dev/index.htm)

See also associated resources for residential aged care facilities:

[www.health.vic.gov.au/agedcare/maintaining/falls\\_dev/Section\\_a2.htm](http://www.health.vic.gov.au/agedcare/maintaining/falls_dev/Section_a2.htm) and the Falls Risk Assessment Tool (FRAT):

[www.health.vic.gov.au/agedcare/maintaining/falls\\_dev/Section\\_b2b\\_1.htm](http://www.health.vic.gov.au/agedcare/maintaining/falls_dev/Section_b2b_1.htm)

Department of Health, *Minimising the risk of falls and fall-related injuries: guidelines for acute, subacute and residential care settings*:

[www.health.vic.gov.au/qualitycouncil/fallsprevention](http://www.health.vic.gov.au/qualitycouncil/fallsprevention)

National Ageing Research Institute, especially the Victorian Falls Clinic Coalition:

[www.mednwh.unimelb.edu.au/vic\\_falls/vic\\_falls\\_home.htm](http://www.mednwh.unimelb.edu.au/vic_falls/vic_falls_home.htm)

Scott V, Higginson A, Sum A and Metcalfe S 2010, *Falls and related injuries in residential care: a framework and toolkit for prevention*, Centre of Excellence for Mobility, Fall Prevention and Injury in Ageing, Centre for Hip Health and Mobility, Vancouver:

[www.injuryresearch.bc.ca/wp-content/uploads/2012/03/3\\_20110811\\_100931Residential-Care-Framework\\_Aug-10\\_2011.pdf](http://www.injuryresearch.bc.ca/wp-content/uploads/2012/03/3_20110811_100931Residential-Care-Framework_Aug-10_2011.pdf)

## Evidence to support this quality indicator

This indicator highlights falls and falls-related fractures as a major issue for older people.

There is substantial evidence and research that demonstrates falls and falls-related fractures are significant among older people living in residential aged care.

### Defining falls and fall-related fractures

According to the World Health Organization (WHO), the commonly accepted definition of a fall is 'inadvertently coming to rest on the ground, floor or other lower level, excluding intentional change in position to rest on furniture, wall or other objects' (2007, p. 1).

A fracture is defined as a traumatic injury to a bone in which the continuity of the bone tissue is broken (Mosby 2002).

Dandy and Edwards (2004) note that there are eight common signs that can be associated with a fracture:

- abnormal limb movement caused by movement at the site of fracture
- 'grating' sound between bone ends
- an obvious deformity that can be felt or seen
- bruising at the site of fracture
- tenderness at the site of fracture
- pain when the fracture site is stressed by bending
- reduced function of fracture site
- swelling at the site of fracture.

An individual with a fracture may exhibit some or all of these signs of fracture. However, the authors note that presence of either of the first two of these signs definitely indicates a fracture.

### Defining falls and fall-related fractures in aged care

WHO (2007) states that the frequency of falls increases with age and frailty.

Thirty to fifty per cent of people living in residential aged care experience a fall every year, with 40 per cent or more experiencing recurrent falls (Nitz et al. 2012). Falls rates are even higher for people with dementia living in residential aged care (Erikson et al. 2008).

The incidence of falls is threefold among older people living in residential aged care compared with those who live in the community (Nurmi and L  thje 2002).

The rate of falling continues to increase with age. Older people aged over 80 years experience the highest rate of falls (Department of Human Services 2007; Fisher et al. 2005; Larsson and Ramamurthy 2000).

This age group also represents the highest proportion of older people living in residential aged care in Victoria, at 76.7 per cent (AIHW 2010).

In 2009 of all deaths reported resulting from a fall, 84.8 per cent were of people aged 70 years or more (Australian Bureau of Statistics 2009).

Although the incidence of falls among older people living in residential aged care is higher, it should be noted that living in residential aged care is in itself not an independent risk factor for falls (Fisher et al. 2005).

Data about the incidence of fall-related injuries and fractures varies, with the variance likely to be related to different resident mix, acuity and proportion of residents with dementia and comparisons between residential care between countries.

However, injuries are common from falls in residential care settings. One Australian study of nine residential aged care facilities reported that 44 per cent of 545 falls resulted in physical injury, including two deaths, eight hip fractures, two elbow fractures, one nose fracture and two ankle fractures.

These falls also involved 63 ambulance transportations, 32 emergency department presentations, and a total of 226 days in hospital (Haines et al. 2012). Twenty-two per cent of older people hospitalised due to falls in Australia are due to resident falls in residential care settings (AIHW 2013).

There are a number of intrinsic falls risk factors (related to the individual) that contribute to an increased risk of falls among older people living in aged care.

Some of these risk factors are not modifiable, such as advanced age and previous history of falls, and are important to note.

Others risk factors include malnutrition, the presence of chronic disease, increased functional decline, polypharmacy, cognitive impairment and dementia, neurological conditions such as stroke and Parkinson's disease, diabetes, vision impairment and acute illness.



## Adverse clinical events and falls and fall-related fractures

The most prominent adverse event discussed in current literature and research surrounding falls and fall-related fractures among older people is an increased risk of mortality.

In 2009, 84.8 per cent of fall-related deaths were of people aged 70 years or more. Rubenstein et al. (1994) state that falls account for two-thirds of accidental deaths among older people. Fuller (2000) points out that older people are eight times more likely to die as the result of a fall compared with younger people.

Fractures are an adverse clinical consequence of falls. Fractures resulting from a fall may occur anywhere on the body, but most commonly occur at the hip in older people (Hindmarsh et al. 2009). Between 25–50 per cent of older people who suffer a hip fracture die in the subsequent 12 months (SIGN 2009; Shahar et al. 2009; Hindmarsh et al. 2009; Jacobson et al. 2008; Diemer 2006).

This increased risk of mortality is due to a number of issues such as surgical complications, the presence and development of comorbidities, gender, age, physical function prior to the fracture occurring, and frailty (Hindmarsh et al. 2009; WHO 2007).

Hindmarsh et al. (2009) point out that 91 per cent of hip fractures occur in older people, with the majority of these fractures caused by a fall. This is supported by Chen et al. (2008), Carter et al. (2001), Härlein et al. (2009) and Nazarko (2009).

Another adverse event relating to falls is post-fall anxiety syndrome, also called fear of falling (Jensen et al. 2002; Harding and Gardner 2009; Nazarko 2008). More than 50 per cent of older people living in residential care report fear of falling (Lach 2013). Zidén et al. (2010) state that after a fall, older people often develop a fear of repeat falls, which leads to a restriction of activities of daily living. Stern and Jayasekara add that falls ‘impact on a patient’s well-being, and can result in serious physical and emotional injury’ (2009, p. 243).

Hindmarsh et al. (2009) discuss the negative impact a fall can have on older people in reducing their mobility and level of independence. Shumway-Cook et al. (2009) add that a fall can lead to a cascade of negative outcomes for the older person such as fear, inactivity, balance issues, reduced agility and a decrease in strength.

Harding and Gardner (2009) point out that a fear of falling may actually increase the risk of repeat falls due to loss of confidence in physical abilities and increased anxiety. The authors also note that risk factors for falls align with risk factors for the fear of falling. This places older people with post-fall anxiety at a greater risk of repeat falls.

There is some evidence to suggest that falling can increase symptoms of depression post-fall, but research is limited in this area.

Research undertaken by Chung et al. (2008) discussing fall-related post-traumatic stress disorder (PTSD) in older people hospitalised after a fall revealed that six months post-fall, just over one-quarter (27.4 per cent) of participants were experiencing partial chronic PTSD.

## Causes of falls

Throughout the literature, the majority of authors categorise falls risk factors as intrinsic or extrinsic. Intrinsic refers to risk factors relating to the health of the individual, and extrinsic refers to risk factors that are external to the individual such as the physical environment (VQC 2004).

The causes of falls in older people are multifaceted and complex, and falls-related hospitalisations among older people have continued to rise over the past decade (AIHW 2013). Given that the Australian population is ageing (AIHW 2011), it is highly likely that the risk of falls will also continue to increase (Carter et al. 2001; WHO 2007).

The increase in falls risk as a result of an ageing population is attributed to physiological age-associated changes that place older people at greater risk of falling, such as an increased incidence of chronic diseases, dementia, reduced physical function and polypharmacy. Note that these issues are not an inevitable part of ageing but are more prevalent in older people.

Evidence shows an association between dementia and increasing risk of falls. This is a significant issue for residential aged care services. The AIHW (2011) publication *Dementia among aged care residents: first information from the Aged Care Funding Instrument*, highlighted that 53 per cent of older people who live in residential aged care have a diagnosis of dementia.

Dementia is a significant risk factor for falls among older people (Härlein et al. 2009, Rubenstein et al. 1994, Sheridan and Hausdorff 2007; Marchetti and Whitney 2006; Kobayashi et al. 2009; van Doorn et al. 2003; Vassallo et al. 2009).

van Doorn et al. (2003) identify that aged care residents with dementia are approximately twice as likely to fall as residents without dementia. Marchetti and Whitney (2006) suggest that this increased rate of falls is due to perceptual and motor changes that occur as a result of dementia.

These changes include visual disturbances such as poor contrast and acuity, spatial deficits and binocular vision. Motor changes include poor limb coordination equilibrium, which leads to slow movement and gait disturbances, and an increased incidence of extrapyramidal symptoms such as rigidity, bradykinesia (abnormally slow movement) and impaired reflexes. In addition, behavioural risk factors such as agitation and wandering may also contribute to increased risk of falling (Shaw 2007).

Female gender is cited throughout the evidence as a significant risk factor for the occurrence of falls. Again this is a trend that is common internationally. The rate of falls among older people is highest in women (WHO 2007).

This phenomenon is largely due to the higher population of older women compared with older men (Larsson and Ramamurthy 2000), and the fact that the majority of residents in aged care are women (AIHW 2009). Research conducted by Kobayashi and colleagues (2009) revealed that 73 per cent of fallers in residential aged care are women.

The presence of chronic disease (excluding dementia, discussed above) among older people also contributes to their risk of falls. Research undertaken by Lee et al. (2009) examining the presence of chronic disease among 11,113 older people reveals that those with one or more chronic diseases are more likely to experience falls. This point is supported by Lawlor et al. (2003).

Chronic diseases commonly associated with falls or multiple falls in the literature include stroke, incontinence, rheumatic diseases, diabetes and Parkinson's disease (Deandrea et al. 2010).

Polypharmacy or multiple medication use is also a risk factor for falls among older people. Nazarko (2009) states that older people are more vulnerable to the side-effects of medications and any medication that causes sedation or confusion, reduces blood pressure or causes dehydration increases the risk of falls.

Woolcott et al. (2009) conducted a meta-analysis to review the effect of nine different medication classes on falls risk. When considering those studies with good medication and falls data methods, five medication groups were shown to be associated with increased risk of falls:

- sedatives and hypnotics
- neuroleptics and antipsychotics
- antidepressants
- benzodiazepines
- non-steroidal anti-inflammatory drugs.

Four of the high falls-risk medication groups (sedatives and hypnotics, neuroleptics and antipsychotics, antidepressants, and benzodiazepines) are considered under the broad classification of psychotropic medications. These medications are commonly prescribed for older people (approximately 20 per cent of older people living in the community, and up to 80 per cent of people in residential care) are taking one or more of these medication types (Hill and Wee 2012).

Where possible, consider alternatives to these medications. If these medications are needed, a strong focus should be placed on strategies to minimise the risk of falls (Hill and Wee 2012; Boyle et al. 2010).

One of the interventions with the greatest effect on reducing falls in community-dwelling older people involved weaning people off the use of psychotropic medications (Campbell et al. 1999).

There is also a special relationship between falls and other more general age-associated issues and health concerns. The following table lists some of the more common issues identified in available literature, and their relationship to falls.

Issue	Relevance to falls and residential aged care
<b>Incontinence</b>	Residents who experience incontinence may rush to reach the bathroom and inadvertently fall. Residents may also slip on urine and fall.
<b>Nocturia</b>	Residents may rush to reach the bathroom at night in darkness and with poor lighting, without waiting for assistance or identifying environmental hazards that may increase falls risk.
<b>Reduced vision</b>	Residents may not be able to visually identify environmental hazards (for example furniture, pets, rugs, spillages, other residents) that may increase risk of falls.
<b>Use of mobility aid</b>	Incorrect use of mobility aids and inappropriate aids increase the resident's risk of falls.
<b>Decreased mobility</b>	Residents may overestimate their ability to mobilise, use inappropriate and unstable 'props' to mobilise (for example furniture, chairs), or 'collapse' unexpectedly while mobilising.
<b>Reduced lower-limb strength</b>	Residents may not be able to stand or mobilise for extended periods of time and may fall, or fall when trying to stand up.
<b>Decreased balance</b>	Residents may lose their balance while standing, walking, turning or reaching, and experience a fall.
<b>Decreased physical activity</b>	Decreased physical activity leads to a decrease in muscle strength and balance, reducing the resident's ability to stand, walk, turn and reach safely.
<b>Decreased hearing</b>	Residents may not be able to hear risks that could cause a fall, or hear warnings to avoid a risk.
<b>Episode of acute illness</b>	Episodes of acute illness (such as urinary tract infection) may affect a resident's cognition, balance, and mobility. Additional medications used to treat the illness may increase the risk of falls.
<b>Poor nutrition and hydration</b>	Poor nutrition and hydration are associated with loss of muscle, reduced function and gait abnormalities. Malnutrition and reduced hydration may increase an older person's risk of falls.

Adapted from: Stoltz et al. (2002), Bauer et al. (2007), Vivanti et al. (2009), Nazarko (2008), Nazarko (2009), Larsson and Ramamurthy (2000), Shahar et al. (2009), Vassallo et al. (2009), Jacobson et al. (2008), Kin and Hood (2001), Fuller (2000), Carter et al. (2001), Chen et al. (2008), Jensen et al. (2002), Rubenstein et al. (1994) and Olsson et al. (2005).

Falls are also often associated with environmental hazards. According to the Victorian Quality Council (2004) between 10–50 per cent of falls in the hospital and aged care environment are a result of an environmental hazard.

Modification of the physical environment can contribute to a reduction in falls among older people, particularly repeat fallers (DHS 2007). The physical environment in residential aged care services should be assessed and modified to reduce the risk of falls amongst residents.

Fuller (2000) discusses basic environmental modifications to all living areas, bathrooms and outdoor areas accessed by residents to reduce the risk of falls. Some of these modifications include removing clutter, removing unnecessary furniture, installation of raised toilet seats, repairing cracks in pathways, and installing adequate lighting.

Audit tools can assist in intermittent review of the environment to minimise environmental hazards that may contribute to falls.

### Fall-related fractures

Fractures as a result of falls are an adverse clinical event (of falls). Several factors increase the risk of fall-related fractures among older people.

The relationship between vitamin D deficiency among older people and fall-related fractures is discussed widely in the literature. Vitamin D is responsible for increasing intestinal calcium absorption, and as a result assists in maintaining calcium levels in the body (Dam et al. 2009). Vitamin D is vital for maintaining bone strength and density, and also skeletal muscle strength (Martini and Nath 2009). It is obtained from external sources, primarily sunlight, although small amounts are also available in some foods (Peters and Adams 2010).

Decreased calcium levels relating to a reduction in vitamin D are a normal age-related change that is exacerbated by some medical conditions and reduced sunlight exposure. This causes the bones to become thinner and weaker (osteopenia), leaving older people at greater risk of falls relating to decreased muscle strength, and of more concern fractures as a result of decreased bone strength and density.

The risk of fractures continues to increase when osteoporosis progresses in the older person. Osteoporosis is described by Elliot (2011) as a chronic condition characterised by deteriorating bone tissue that increases the risk of fracture.

Inderjeeth and Poland (2010) expand on this, describing osteoporosis as deterioration to the structure of the bone that leads to increased bone fragility and an increased risk of fractures as a result of this.

The AIHW (2011) cites the following information regarding osteoporosis in Australia:

- 692,000 Australians have a diagnosis of osteoporosis.
- Osteoporosis commonly occurs in people aged 55 years and over (84 per cent).
- The majority of osteoporosis sufferers are aged 75 years and over.
- Eight out of ten osteoporosis sufferers are female.
- In 2007–08 there were 52,730 hospital admissions resulting from an osteoporotic fracture. The majority of these fractures occurred at the hip (43 per cent).

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# Indicator 3: Use of physical restraint

## Objective

To monitor the proportion of use of physical restraints and trends.

## Recommended reference ranges

### Physical restraint per 1,000 occupied bed days

Measure	Lower target rate	Upper limit rate
Intent to restrain	0	0
Physical restraint devices	0	0

- incontinence
- falls
- confusion
- aggression
- decreased mobility
- infection
- under-nutrition
- decreased muscle strength
- pain.

## Why monitoring physical restraint is important

Restraint is any aversive practice, device or action that interferes with a resident's ability to make a decision or which restricts their free movement.

Evidence suggests that the prevalence of physical restraint in residential aged care is between 12–49 per cent (Alzheimer's Australia 2014).

This is despite research that indicates physical restraint can cause negative physical and psychological outcomes (Engberg, Castle and McCaffrey 2008).

There are a number of adverse clinical events associated with physical restraint, including:

- death
- mental health decline, with decreased cognitive function and depression
- increased social isolation
- pressure injury development

## Key facts

Physical restraint is an act of removing an individual's rights to freedom and autonomy.

A family member and legal representatives do not have the legal right to request that a resident be restrained.

Decisions to use or not use physical restraints may raise ethical questions and dilemmas for care workers.

The evidence indicates restraint does not prevent falls or fall-related injuries and is likely to exacerbate behaviours.

A restraint free environment is the recommended standard of care.

## How to collect and report this indicator

### Data collection

- There are two measures to be collected for physical restraint during each of the observation audits.
- Identify three audit days in the quarter. On each of these audit days, conduct three audits of all residents, one during the morning, one in the afternoon and one at night. This is a total of nine observation audits over the quarter.
- Observation audits should be unannounced.

### Measure 1: Intent to restrain

- Is defined as the intentional restriction of a resident's voluntary movement or behaviour by the use of a device, or removal of mobility aids, or physical force for behavioural purposes.
- This measure requires observation and recording any instance where any restraint equipment or action is in place to **intentionally** restrain a resident using devices or actions contained in the definitions A, B or C.

### Counting rule

- Example 1: If at the time of the audit it is observed that bedrails (definition A) **are in use** to intentionally restrict a resident from getting out of bed, then the count would be '1'. If the resident was also restrained with a safety vest (definition B) at the same time, then the count would be '2'.
- Example 2: If a resident is being intentionally restrained in a deep chair (definition A) and with a lap rug with ties (definition C), this should be counted as 2.
- Example 3: If a resident was intentionally locked in their room (definition C), then this action would be counted as '1'. If the resident was also sitting within the room with a locked table (definition B) in place then the count would be '2'.

### Comments

To include on the data recording sheet for measure 1:

- Record the total number of actual residents who were being intentionally restrained at any time during the audits.
- Record the number of restraints used that are specifically requested by the resident and/or their family or advocate.

### Measure 2: Physical restraint devices

- This measure is about counting **all devices** in use at the time of the audits for any reason in accordance with definition B. These are to be counted whether they are being used to intentionally restrain a resident or not.

### Counting rule

- Example 1: If at the time of an audit it is observed that bedrails are in use without the intention to restrain (e.g. at resident request) this should be counted as '1'.
- Example 2: If during an audit it is observed that bedrails are intentionally in use to restrict a resident from getting out of bed, this should be counted again for measure 2 as '1', even though it has already been counted under measure 1.

### Comments

To include on the data recording sheet for measure 2:

- Record the number of uses of restraint that were specifically requested by the resident and/or their family or advocate.



## Definition of key data elements

### A: Intent to restrain

**Physical restraint** is defined as the ‘intentional restriction of a resident’s voluntary movement or behaviour by the use of a device, or removal of mobility aids, or physical force for behavioural purposes is physical restraint.

‘Physical restraint devices include **but are not limited to** lap belts, table-tops, posey restraints or similar products, bed rails and chairs that are difficult to get out of, such as beanbags, water chairs and deep chairs.’

Source: Department of Health and Ageing 2012, *Decision making tool: responding to issues of restraint in aged care*, Commonwealth Government of Australia, Canberra.

### B: Physical restraint devices

Devices commonly associated with physical restraint

- Bedrails
- Chairs with locked tables
- Seatbelts other than those used during active transport
- Safety vest
- Shackles
- Manacles

### C: Other restraints

Definitions A or B do not list all possible physical restraints. The audit process should consider whether **placement of furniture, use of concave mattresses, lap rugs with ties or any other devices used with the intention to restrict free movement**. If so, these should be included in measure 1.

**Actions such as intentionally locking residents in their rooms should also be included in measure 1.**

## Exclusions

- Secure areas and perimeter alarms **are not** included for the purpose of this indicator.

## Inclusions

- Make sure you include respite residents in the observational audits.

## Considerations for undertaking unannounced audits

- Do not disclose the timing of the observational audit to staff, except for the person conducting the observation.
- Audits should be performed by staff who are not involved in direct care of residents on that day.
- The person conducting the audit should directly observe all residents at the allocated time. The person should walk through the facility and record any uses of restraint.
- In larger organisations, observations can be made by managers as they perform routine visits, or by quality staff during the day and by supervisors at night.
- In some smaller facilities, the only staff present onsite at night are direct care staff. Telling a staff member to conduct an audit related to restraint may result in altered practice and therefore influence the count. An alternative may be for managers to contact night staff at a certain time (previously undisclosed) and ask staff to conduct the audit at that time. This approach may reduce the possibility of altered work practices.
- Staff who conduct the audit should have a good understanding of the definition of restraint.
- If a resident is restrained by more than one type of restraint, count each restraint. This applies to measure 1 and measure 2.

## Quick tips for data accuracy

- Information for this indicator is collected through actual observation and not a documentation audit.
- Ensure indicator information is collected consistently. For example, two people independently observing and interpreting the use of physical restraint must both report it in the same way.
- Ensure data collection is accurate so that you can more reliably benchmark your own internal performance and your performance against other PSRACS.

## Important note

Any use of physical restraint should be investigated at the time of the audit.

- Check the appropriateness of any restraint authorisation documentation for individual residents, where it is in use.
- Restraint should only be used as a last resort, with regular processes in place for checking and reviewing ongoing need.

In exceptional circumstances where restraint is being considered or used it is very important to remember the following:

- Physical restraint is an act of removing a resident's rights to freedom and autonomy.
- Even if physical restraint is used as a temporary method of maintaining resident safety during a procedure, it must still be regarded as restraint.
- The reason for using physical restraint must be thoroughly weighed against the negative consequences of restraint.

## Frequently asked questions about physical restraint

**If a physical restraint that stops a resident's freedom of movement is being used to prevent a resident falling, or some other hazardous situation, should this be counted for this indicator?**

**Yes.** *If the device or action restricts a resident's freedom of movement it counts as restraint.*

**If there are questions about a resident's capacity for voluntary movement or behaviour, due to cognitive issues, should their physical restraint still be counted in this audit?**

**Yes.**

**If an item that is normally classified as a 'restraint' is being used at the request of the resident or family/advocate, should this be counted as restraint in this audit?**

**Yes.** *If the item meets definition A – intent to restrain, it is to be counted in measure 1. If the item is listed in definition B – physical restraint device, it is to be counted in measure 2.*

**Do all concave mattresses and water chairs count as restraint?**

**Yes.** *If the use of concave mattresses and water chairs meets definition A – Intent to restrain, and restrict a resident's freedom of movement.*

**No.** *If the concave mattresses and water chairs do not restrict a resident's freedom of movement in any way.*

**No.** *If the resident is unable to independently move themselves in any way.*

*This also applies to other items such as recliner chairs, deep chairs, bean bags etc.*

**If seatbelts are being used while people are being showered in shower chairs, do these count as restraint?**

**Yes.** *If the use of the seatbelt meets definition A to intentionally restrict a resident's voluntary movement or behaviour, and the resident is not being actively transported, it is to be counted in measure 1.*

**Yes.** *If the seatbelt is in use (and does not meet definition A - intent to restrain) and the resident is not being actively transported, it is to be counted in measure 2.*

**No.** *If the seatbelt is in use while the resident is being actively transported by a staff member to the shower (or toilet for example).*

**Is moving a resident's bed against a wall restraint?**

**Yes.** *If by putting the bed against the wall meets definition A – Intent to restrain, and restricts a resident's freedom of movement.*

**No.** *If by putting the bed against the wall it does not restrict a resident's freedom of movement in any way.*

**No.** *If the resident is unable to independently move themselves in any way.*

## Data recording sheet

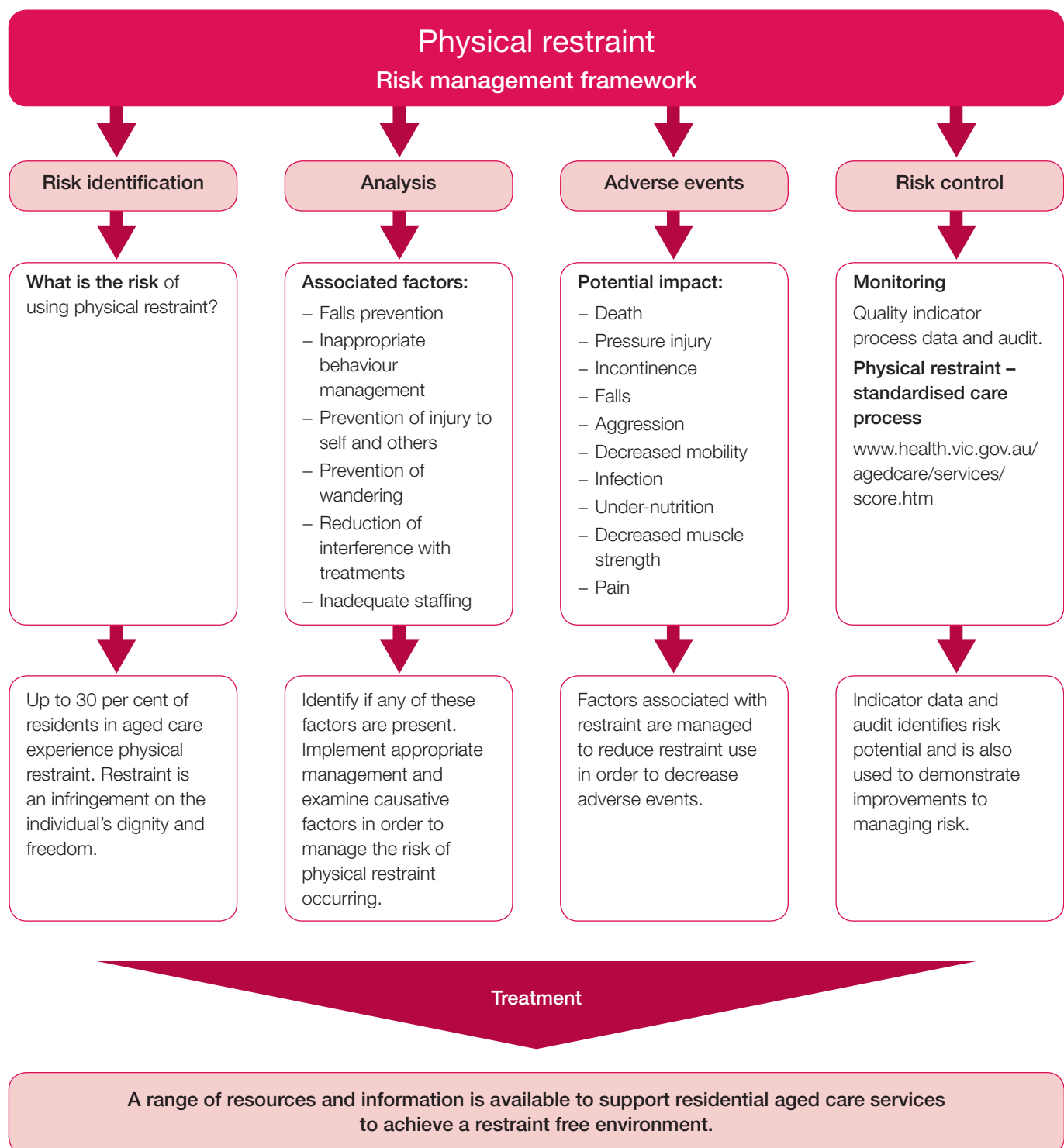
Name of service:	
Reporting quarter end date:	
Dates of report days:	1. 2. 3.

### Measure 1: Intention to restrain

	Observation day 1	Observation day 2	Observation day 3	Total
Total number of uses of intentional physical restraint as per definition A from three observation audits on each observation day				
<b>Comments</b> <b>Required</b> if applicable – indicate the total number of residents who were intentionally restrained during any of the audits. <b>Required</b> if applicable – number of uses of restraint in the total that were requested by the resident or the resident's family or advocate, for example '12 restraint uses from total were water chair requested by family'. <b>Optional</b> – any other comments.				

### Measure 2: Physical restraint devices

	Observation day 1	Observation day 2	Observation day 3	Total
Total number of uses of physical restraint devices as per definition B from three observation audits on each observation day				
<b>Comments</b> <b>Required</b> if applicable – number of uses of restraint in the total that were requested by the resident or the resident's family/advocate, for example 'three restraint uses were bedrail requested by resident for security'. <b>Optional</b> – any other comments.				



## Resources

A range of resources and information is available to support residential aged care services to achieve a restraint free environment.

- Department of Health and Ageing 2012, *Decision-making tool: supporting a restraint-free environment in residential aged care*, Commonwealth Government of Australia, Canberra:  
[www.health.gov.au/internet/main/publishing.nsf/Content/ageing-decision-restraint-residential.htm](http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-decision-restraint-residential.htm)
- Department of Health 2014, *Standardised care process (SCP): physical restraint*, State Government of Victoria, Melbourne:  
[www.health.vic.gov.au/agedcare/downloads/score/restraint\\_scp.pdf](http://www.health.vic.gov.au/agedcare/downloads/score/restraint_scp.pdf)
- NSW Department of Health 2006, *Guidelines for working with people with challenging behaviours in residential aged care facilities – using appropriate interventions and minimising restraint*, State Government of New South Wales, North Sydney:  
[www.health.nsw.gov.au/policies/gl/2006/pdf/GL2006\\_014.pdf](http://www.health.nsw.gov.au/policies/gl/2006/pdf/GL2006_014.pdf)

## Evidence to support this quality indicator

This indicator highlights the use of restraint as a major issue for older people.

There is substantial evidence and research that demonstrates the use of physical restraint as having significant impacts for older people living in residential aged care.

### Defining physical restraint

The Department of Health and Ageing 2012 *Decision-making tool: supporting a restraint-free environment in residential aged care* defines physical restraint in the following way:

‘Restraint is any practice, device or action that interferes with a resident’s ability to make a decision or which restricts their free movement’ (p. 24).

This definition of physical restraint is also supported by authors such as the Australian and New Zealand Society for Geriatric Medicine (2012) and Timmins (2008).

The following devices and equipment are considered to be physical restraint when **intentionally** used to **restrict** resident **movement**:

- bedrails/cot sides
- shackles
- manacles
- over-bed tray-tables
- tray-tables that ‘lock’ into chairs
- deep chairs such as ‘princess chairs’, or other chairs that are difficult to get out of such as recliner chairs
- posey belts
- lap belts and seatbelts other than those in a motor vehicle
- safety vests
- concave mattresses.

### The significance of physical restraint in residential aged care

The incidence of physical restraint in aged care across Australia is poorly documented. However, available evidence suggests an incidence of 15–30 per cent (Johnson et al. 2009).

Evidence suggests that the prevalence of physical restraint use in residential aged care is between 12–49 per cent (Alzheimer’s Australia 2014).

Rationale for the use of restraint is often embedded in the perception that it reduces risks to resident safety (and the safety of others) as a result of falls, wandering, aggression, agitation and unpredictable behaviour.

There is also evidence that suggests older people living in residential aged care are physically restrained due to inadequate staff supervision.

Research indicates that the use of physical restraint can cause negative physical and psychological outcomes (Engberg et al. 2008). There may also be an inaccurate perception that using physical restraint to minimise risks to the resident’s safety does not constitute restraint. Regardless of the rationale for its use, any method of physical restraint should always be regarded as such (Department of Health and Ageing 2012).

It is likely that the variations in the incidence of physical restraint cited above are due to organisations’ different understandings of what actually constitutes restraint. This is supported by Meyer et al. (2008) and Fogel et al. (2009).

Regardless of the incidence of physical restraint, it is a significant issue in aged care because it is an infringement of the individual’s right to freedom and dignity (Gelkopf et al. 2009; Meyer et al. 2008; Royal College of Nursing 2008; Timmins 2008). This is in direct opposition to the objectives of the Commonwealth *Charter of care recipients’ rights and responsibilities: residential care* (Department of Social Services 2014).

Evidence also shows restraint may actually cause or exacerbate the adverse outcomes its use was attempting to address (Engberg et al. 2008). For example, physical restraint used to restrict unsafe movement of a resident who has delirium and is aggressive exacerbates their delirium and aggression (Australian and New Zealand Society for Geriatric Medicine 2012).

This example highlights the importance of understanding:

- what physical restraint is
- its appropriateness in residential aged care
- the negative outcomes associated with it.

## Adverse clinical events and the use of physical restraint

Decisions to use or not use physical restraint may raise ethical questions and dilemmas for care workers. These challenges can be difficult and may not be easily resolved.

When deciding whether or not to use of physical restraint, it may be difficult to avoid harm, as injury can be caused by either course of action.

Healthcare workers have an obligation to all those in their care, and if enabling one person's freedom results in harm to others, then decision makers need to justify their decision based on the consequence of applying or not applying restraint (Royal College of Nursing 2008).

There is substantial evidence that shows the negative consequences associated with physical restraint and the older person. No evidence exists to support the view that the use of physical restraint maintains safety and reduces the incidence of adverse clinical events such as falls.

However, the literature acknowledges that in some situations the use of physical restraint may be the only last option available to manage a specific issue.

The psychological and physical adverse outcomes for residents caused by physical restraint can be serious. Research indicates that physical restraint clearly impacts on a resident's mental health, including their emotional wellness and social engagement.

Castle (2006) demonstrates that residents who are restrained are more likely to become more impaired with respect to cognitive performance, depression and social engagement. They conclude that if facilities reduce the use of physical restraint, the prevalence of residents' mental health problems is also likely to decline.

Other adverse events associated with physical restraint and the older person examined by several studies include damage to the individual's dignity and autonomy as a result of being physically restrained.

The Australian and New Zealand Society for Geriatric Medicine (2012) cites emotional desolation, withdrawal, fear and anger as consequences of physical restraint.

Gastmans and Milisen (2005) add that an older person who is physically restrained may experience loss of dignity, social isolation, loss of self-respect and identity, and feelings of shame. These points are also supported by authors such as Timmins (2008) and Stubbs et al. (2009).

Mortality associated with or caused by physical restraint is cited frequently in available evidence (Australian and New Zealand Society for Geriatric Medicine 2012; Agens 2010; Lane and Harrington 2011; McCabe et al. 2011).

A residential aged care coronial communiqué released by the Victorian Institute of Forensic Medicine in 2006 cites 21 deaths of older people in health and aged care settings linked to physical restraint. Four of those deaths occurred as a direct result of physical restraint causing asphyxia (choking).

Gastmans and Milisen (2005) state that physical restraint is associated with an increased risk of mortality related either directly to the restraint device or associated with the restraint device. For example a resident may be restrained to reduce the risk of falling, but may in fact experience a fall as a result of being restrained, which then results in a head injury and ultimately death.

There are a number of other adverse clinical events aside from mortality associated with restraint cited in the available evidence:

### Adversity in the use of physical restraint

- Infringement of residents' human rights and dignity
- Pressure injury development
- Incontinence
- Decreased muscle strength
- Falls
- Confusion
- Aggression
- Anxiety
- Bruising
- Abrasions
- Nerve injury
- Decreased mobility
- Nosocomial infection
- Chest and abdomen compression
- Physical dependence
- Under-nutrition
- Pain

**Physical restraint**

**Adapted** from Feng et al. 2009, Gelkopf et al. 2009, Pellfolk et al. 2010, Knox 2007, Meyer et al. 2008, Fogel et al. 2009, Timmins 2008, Agens 2010, Lane and Harrington 2011, Evans et al. 2003, and Gastmans and Milisen 2005.



## Why physical restraint occurs

There are many reasons why physical restraint is used in the aged care environment. However, there is no evidence that demonstrates physical restraint is of any benefit to aged care residents.

Available evidence does suggest there may be situations where physical restraint is sometimes required because all other options used to manage resident safety have failed.

The general consensus of the literature evaluated concludes there are six common reasons why physical restraint is rationalised for use among older people (Agens 2010; Australian and New Zealand Society for Geriatric Medicine 2012; Evans et al. 2003; Gelkopf et al. 2009; Huang et al. 2009; Knox 2007; Lane and Harrington 2011; McCabe et al, 2011; Meyer et al, 2008; Pellfolk et al. 2010; Saarnio & Isola 2009; Timmins, 2008).

These are:

- prevention of falls
- management of aggressive/inappropriate behaviour
- prevention of injury to the confused resident
- prevention of wandering
- reducing interference with 'treatments' and medical devices
- risk reduction during periods of low/inadequate staff supervision.

When measured against the adverse outcomes of the use of restraint outlined on p. 1, it is clear that these rationales are contradictory. In addition, the Australian and New Zealand Society for Geriatric Medicine (2012) clearly states the use of physical restraint should never be used to compensate for inadequate staffing numbers.

Wang and Moyle (2005) also point out physical restraint is often perceived as a preventive strategy to reduce risks to residents. This issue is also supported by authors such as Johnson et al. (2009) and the Victorian Institute of Forensic Medicine (2006).

The use of physical restraint has also been linked to nursing and care worker knowledge, education and understanding of what constitutes restraint and the appropriateness of its application in the aged care setting. This is a skill set that has been demonstrated as inadequate in international studies (Huang et al. 2009).

This issue is highlighted by Johnson et al. (2009), who examine a restraint minimisation program in an Australian residential aged care service. Nursing staff consistently demonstrated a belief that the benefits of physical restraint far outweighed the negatives associated with it.

Saarnio and Isola (2009) state that nursing staff may not be fully aware of alternative options, making it difficult for them to make an informed decision about its use. This is a significant issue considering nursing staff in residential aged care are often the key decision makers regarding the use of physical restraint (Gelkopf et al. 2009; Huang et al. 2009).

Another issue is the request for the use of physical restraint by the resident or resident's family. The Commonwealth Department of Health and Ageing has made a clear statement about requests for restraint by family members:

'A family member or legal representative does not have the legal power to require that a resident be restrained. This is a clinical decision that must be made by appropriately qualified people.

The reasons for the decision to restrain and the process by which the decision was reached should be documented, as those making the decision are legally accountable for the decisions and consequences'

**Source:** *Decision-making tool: supporting a restraint free environment in residential aged care*, p. 22.

Several studies discuss resident perceptions of being physically restrained at their own request. Residents request the use of restraint because they believe it makes them feel 'safe' (Gastmans & Milisen 2006), it can stop them from falling (Gallinagh et al. 2001), and they trust that nursing and care staff are making the right decision to restrain them (National Ageing Research Institute 2005).

Physical restraint is often used to manage behavioural and psychological symptoms of dementia and prevent falls.

However the evidence indicates restraint does not prevent falls or fall-related injuries (Quershi 2009) and, indeed, is likely to exacerbate behaviours.

A restraint-free care environment is the recommended standard of care (Rathnayake 2012).

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# Indicator 4: Use of nine or more medicines

## Objective

To monitor the proportion of residents using nine or more different medicines and trends.

## Recommended reference range

**Nine or more medicines per 1,000 occupied bed days**

Measure	Lower target rate	Upper limit rate
9+ medicines	2.1	3.5

## Why monitoring medicine use is important

Polypharmacy is a considerable health issue among older people. People aged 65 years and over are the highest consumers of multiple medicines in Australia.

There are a number of outcomes that may be fully or partly attributable to polypharmacy, including:

- increased incidence of and susceptibility to adverse drug reactions and events
- increased risk of falls
- increased risk of weight loss
- non-adherence
- an inability to excrete and metabolise medicines.

There are several reasons why polypharmacy can occur in older people, including:

- inappropriate prescribing
- necessity to appropriately manage diseases
- medicine hoarding by residents, and non-disclosure of medicines they are already taking
- excessive duration of medicine use without review
- inappropriate use of medicines, such as taking medicines that are no longer necessary or are being taken from a stored stock.

## Key facts

When using the common definition of nine or more medicines, the reported prevalence of polypharmacy in residential aged care facilities ranged from 13–75 per cent.

Polypharmacy increases the risk of hospitalisation and outpatients and in turn increases costs to the patient and to the healthcare system.

In some situations polypharmacy may in fact be necessary to ensure a quality health outcome for the individual.

## How to collect and report this indicator

### Data collection

- There is one measure to be collected through a quarterly audit of resident medication charts and/or administration records.
- Conduct an audit on one nominated week in the quarter.
- Repeat this at three-monthly intervals.

### Exclusions

The following are excluded:

- lotions/creams/ointments used in wound care
- dietary supplements (see definition below), including those containing vitamins
- alcohol (even if it is written up on medication chart)
- short-term medicines, such as antibiotics, temporary eye drops
- PRN medicines (note: PRN medicines used regularly should be reviewed by the prescriber).

Make sure you **include** respite residents.

### Quick tips for data accuracy

- This indicator requires that the medicines for each resident are actually counted.
- The audit should be conducted by a member of staff who has an understanding of the definition of a medicine and can interpret the medication administration chart and/or record for any exclusions.
- Staff must understand and use the same exclusions when counting the number of medicines that each resident is prescribed.
- PRN medicines are excluded, **but** if residents regularly take the same PRN, talk to the general practitioner to determine the need for ongoing regular administration and monitoring of effectiveness.

### Definition of key data elements

**Medicine** is defined as a chemical substance given with the intention of preventing, diagnosing, curing, controlling or alleviating disease or otherwise enhancing the physical or mental welfare of people.

It includes prescription and non-prescription medicines, including complementary health care products, irrespective of the administered route.

Source: Australian Pharmaceutical Advisory Council 2005, *Guiding principles to achieve continuity in medication management*.

**Dietary supplement** is defined as a product intended for ingestion that contains a 'dietary ingredient' intended to add further nutritional value to supplement the diet.

### Counting rule

- Count each different medicine that is ordered.  
Note that there are a number of exclusions (see below).
- Make sure that different doses or dosages of the same medicine are not counted as different medicines.
- Medicines can be administered by a number of different routes.
- Each medicine should be counted once, regardless of the route of administration, for example:
  - orally
  - nasally
  - ocular
  - aurally
  - inhalation
  - intramuscular
  - intravenously
  - subcutaneously
  - dermally (patches)
  - rectally
  - vaginally.

### Important note

If the audit identifies a resident using nine or more medicines, this is a trigger to decide whether a review of the resident's medication is needed.

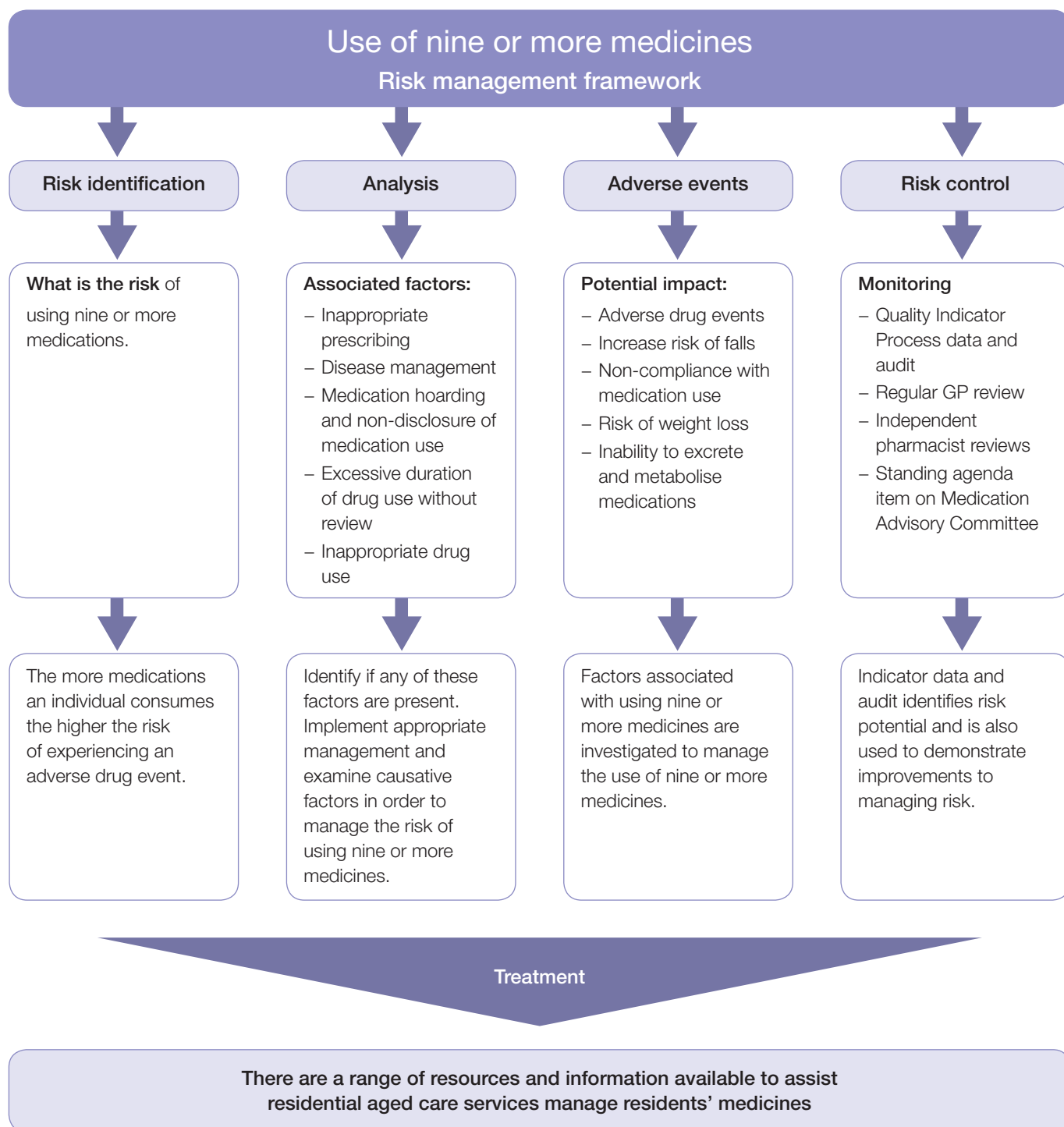
This would need to be discussed with a resident's general practitioner and family or advocate.

## Data recording sheet

Name of service:
Reporting quarter end date:
Audit date:

### Measure: Number of residents using nine or more medicines

Number of residents whose charts were audited	Number of residents using nine or more different medicines
<b>Comments</b> <ul style="list-style-type: none"> <li>• <b>Optional</b> – any comments.</li> </ul>	



## Resources

A range of resources are available to assist residential aged care services manage residents' medicines.

Department of Health and Ageing 2012, *Guiding principles for medication management in residential aged care facilities*, Commonwealth Government of Australia, Canberra:

[www.health.gov.au/internet/main/publishing.nsf/Content/nmp-pdf-resguide-cnt.htm](http://www.health.gov.au/internet/main/publishing.nsf/Content/nmp-pdf-resguide-cnt.htm)

Department of Health 2014, *Standardised care process: managing medication to minimise risks associated with polypharmacy*, State Government of Victoria, Melbourne:

[www.health.vic.gov.au/agedcare/downloads/score/polypharmacy\\_scp.pdf](http://www.health.vic.gov.au/agedcare/downloads/score/polypharmacy_scp.pdf)

Pharmacy Guild of Australia, 'Residential Medication Management Review Programme and Quality Use of Medicines Programme':

[5cpa.com.au/programs/medication-management-initiatives/residential-medication-management-review/](http://5cpa.com.au/programs/medication-management-initiatives/residential-medication-management-review/)



## Evidence to support this indicator

This indicator highlights the use of multiple medicines as a potentially major health concern for older people.

There is substantial evidence and research that demonstrates polypharmacy as having significant impacts for older people living in residential aged care.

### Defining polypharmacy

Polypharmacy refers to either the use of multiple medicines, or the use of more medicines than are clinically indicated (Hajjar et al. 2007).

There is no universally accepted definition of polypharmacy.

A common definition of polypharmacy in community-based settings is use of five or more medicines (Gnjidic et al. 2012), whereas a common definition in residential aged care facilities is use of nine or more medicines.

### Polypharmacy in aged care

Polypharmacy is highly prevalent in residential aged care (Elliot 2006). When using the common definition of nine or more medicines, the reported prevalence of polypharmacy in residential aged care facilities has ranged from 13–75 per cent (Bronskill et al. 2012; Dwyer et al. 2010; Field et al. 2001; Finkers et al. 2007; Gellad et al. 2012; Hanlon et al. 2009; Hosia-Randell et al. 2008, Lau et al. 2004, Moore et al. 2014, Monroe et al. 2011; Nguyen et al. 2006; Tamura et al. 2011).

A Tasmanian study, which defined polypharmacy as using ten or more medicines, reported that the prevalence of polypharmacy was 25 per cent among recipients of pharmacists' residential medication management reviews (Stafford et al. 2012).

A retrospective audit of residents admitted to hospital from Australian residential aged care facilities found that 54 per cent used ten or more medicines (Lane et al. 2013).

A Victorian study conducted in four aged care facilities reported that 39 per cent of residents used nine or more medicines on a regular basis (Moore et al. 2014).

Polypharmacy is important to consider because minimising unnecessary medicine use in aged care facilities can help to maintain health-related quality of life and reduce hospitalisation (Pitkälä et al. 2014).

### Adverse clinical events associated with polypharmacy

Polypharmacy has been associated with increased adverse drug reactions (ADRs), adverse drug events (ADEs), non-adherence, functional decline and geriatric syndromes including cognitive impairment, falls, urinary incontinence and poorer nutritional status in older adults (Shah and Hajjar 2012).

Between 2–3 per cent of all hospital admissions in Australia are estimated to be due to medicine-related events, rising to between 20–30 per cent in people aged 65 and over (Roughead and Semple 2009; Australian Commission on Safety and Quality in Health Care 2013).

Polypharmacy increases the risk of hospitalisation and outpatient visits and in turn increases costs to the patient and to the healthcare system (Shah and Hajjar 2012).

### Causes of polypharmacy

There are a number of reasons why polypharmacy occurs.

One important reason is due to the continuation of long-term medicines for which the benefits no longer outweigh the risks. However, it should be noted that in some situations polypharmacy may in fact be necessary to ensure a quality health outcome for the individual (Holbeach and Yates 2010; Bolton et al. 2004; Anthierens et al. 2010).

As Corsonello et al. (2009) point out, 'balanced and safe prescribing is difficult to achieve in frail older adults with multiple comorbid diseases' (p. 31).

Authors such as Le Couteur et al. (2010), Holbeach and Yates (2010), Harugeri et al. (2010), Elliot (2006), Somers et al. (2010), Jyrkkä et al. (2009), and Simonson (2009) cite the following factors that influence polypharmacy:

- inappropriate prescribing
- increased morbidity
- non-disclosure
- medicine hoarding by residents
- excessive duration of medicine use
- inappropriate medicine use.

The table below provides a rationale to support why the previous mentioned factors influence polypharmacy in older people.

Issue	Relevance to use of medicines and residential aged care
<b>Inappropriate prescribing</b>	The use of medicines that are ineffective or introduce a significant risk of an adverse drug-related event.
<b>Increased morbidity</b>	The prevalence of comorbidity increases with age, requiring the use of multiple medicines to manage them.
<b>Non-disclosure</b>	Older people may not disclose to the prescribing physician all <b>current</b> medicines due to either cognitive-related changes (that is, they cannot remember all medicines), an unwillingness to 'part with' long-term medicines which are no longer required, or a lack of understanding about what constitutes a medicine (for example, over the counter medicines and herbal preparations).
<b>Medicine hoarding by residents</b>	Older people may hoard and use previously prescribed medicines which have been discontinued or have expired.
<b>Excessive duration of medicine use</b>	Prescribed medicines may be inappropriately continued. For example sedatives and hypnotics.
<b>Inappropriate medicine use</b>	Older people may consume medicines that are no longer clinically required but have been prescribed over a long period of time, taken from a hoarded stock, or are not appropriate for the individual but are prescribed due to failure of the prescriber to review current medicines and consider the potential for adverse drug reactions and events.

**Adapted** from Ryan et al. (2008), Gallagher et al. (2007), Niwata et al. (2006), Pham and Dickman (2007), Kaur et al. (2009), Ruggiero et al. (2009), Corsonello et al. (2009), Elliot (2006).

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# Indicator 5: Unplanned weight loss

## Objective

To monitor the proportion of residents with unplanned weight loss and trends.

## Recommended reference ranges

**Unplanned weight loss per 1,000 occupied bed-days**

Measure	Lower target rate	Upper limit rate
Significant weight loss	0.2	1.0
Consecutive weight loss	0	1.0

## Why monitoring unplanned weight loss is important

Between 13–31 per cent of residents in aged care experience unplanned weight loss. There are many adverse clinical events that can occur as a result of unplanned weight loss including:

- death
- increased risk of hip fractures
- pressure injury development
- poor wound healing
- malnutrition.

Unplanned weight loss occurs among older people for a number of reasons, including:

- dementia
- behaviours linked to dementia such as pacing, wandering, inability to recognise food, forgetting to eat, forgetting how to eat, inability to feed self, loss of communication skills and paranoia regarding food

- polypharmacy
- protein energy malnutrition
- aged-related changes, sometimes called the ‘anorexia of ageing’, for example loss of taste, smell, sight, changes to the digestive system, and swallowing difficulties
- depression
- chronic disease
- poor dentition such as poorly fitting dentures and dental prosthesis, missing and decayed teeth
- social isolation
- physical and organisational environment.

## Key facts

Reported prevalence of malnutrition in the residential aged care setting ranges from 40–70 per cent.

Several studies indicate the presence of dementia is linked to unplanned weight loss.

Issues related to the quality of, and access to food choices that meet residents’ cultural, religious and personal food preferences should be considered.

## How to collect and report this indicator

### Data collection

- There are two measures to be collected by auditing the monthly weight records of all residents.

### Measure 1: Significant unplanned weight loss

- If over the three-month period a resident shows unplanned weight loss equal to or greater than **three** kilograms, record this change. This result is determined by comparing weight at the last weigh this quarter with weight at the last weigh last quarter. Both these weights need to be available to provide this result.

### Measure 2: Consecutive unplanned weight loss

- If a resident shows an unplanned weight loss of any amount **every** month over the three consecutive months of the quarter, record this. This can only be determined if the resident is weighed on all three occasions.

### Comments

To include on the data recording sheet:

- Residents may choose not to participate in this audit, so provide an explanation if residents are not included, that is if there is a difference between total residents and the number of residents weighed.
- Indicate if any residents were included in both measures, that is if they lost three kilograms or more **and** lost weight every month for three months.

### Exclusions

- Residents who are absent, for example, in hospital.
- A resident receiving end-of-life palliative care.
- **Exclude** respite residents.

### Quick tips for data accuracy

It is important for monitoring of unplanned weight loss to note the following:

- Regularly calibrate weighing devices.
- Weigh residents at around the same date and time as the previous month on the same weighing device.
- Weigh residents in clothing of a similar weight each month and deduct this from the total weight to arrive at a result.
- Ensure summing of weight loss from month to month is accurate.

If a resident has unplanned weight loss or gain, consider weighing the resident again the next day to check if this is just a normal daily fluctuation and to confirm accuracy.

## Definition of key data elements

- Unplanned weight loss is beyond the control of the individual.
- It is weight loss where there is no written strategy and ongoing record relating to planned weight loss for the individual resident.
- **Significant weight loss** is defined as unplanned weight loss equal to or greater than three kilograms over a three-month period.
- **Consecutive weight loss** is defined as unplanned weight loss of any amount every month for a three-month period.

## Counting rules

- You do not need to weigh all residents on a single day. You can weigh a number of people on each day of the month. For example, if your facility has 40 residents and there are 20 weekdays in a month, you may decide to weigh two residents each day.
- Each resident, however, must be weighed at monthly intervals and as close as possible to the same day of each month.
- Only residents who are included in all three weighs for the quarter can be evaluated against this indicator.
- Do not weigh residents if this causes them pain or distress. Using alternative weighing equipment may address this issue.

## Important note

- You should investigate an individual resident's unplanned weight loss promptly, and put in place strategies to address this as quickly as possible.
- If a resident cannot be weighed, it is still good practice to monitor them using alternative means such as mid-arm or calf circumference. This ensures changes are identified and appropriate strategies put in place.

## Data recording sheet

Name of service:

Reporting quarter end date:

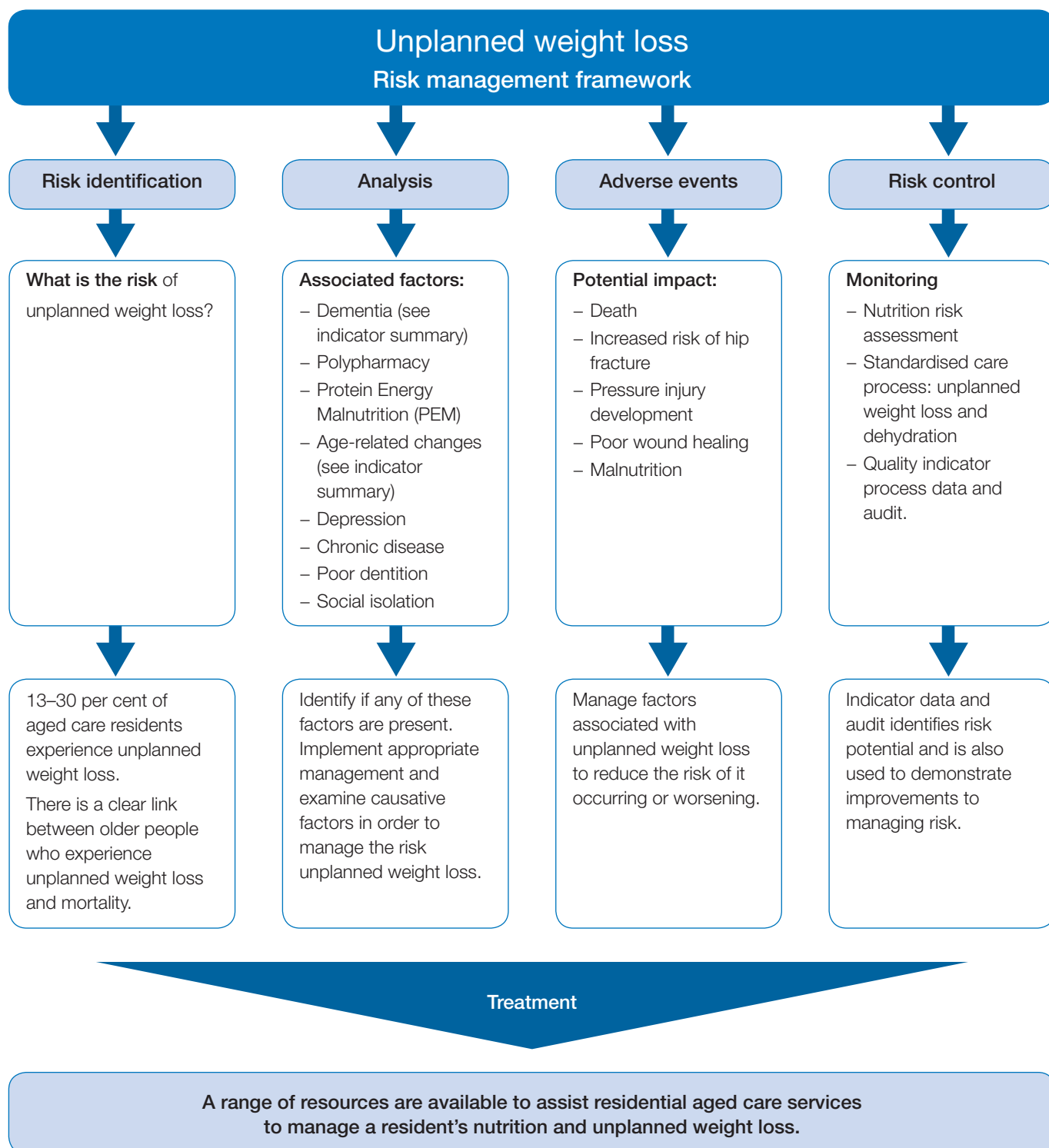
### Measure 1: Significant unplanned weight loss

Number of residents whose weight was monitored	Number of residents who experienced total unplanned weight loss equal to or greater than three kilograms
<b>Comments</b> <ul style="list-style-type: none"> <li>• <b>Required</b> if applicable – explain any difference between total residents and number of residents weighed, for example, ‘Two residents died, one in hospital on second weigh day’.</li> <li>• <b>Required</b> if applicable – indicate the number of residents who appeared in both parts of the indicator, that is they lost more than three kilograms and lost weight for three consecutive months, for example, ‘Four residents lost more than three kilograms <b>and</b> lost weight every month’.</li> <li>• <b>Optional</b> – any other comments.</li> </ul>	

### Measure 2: Consecutive weight loss

Number of residents whose weight was monitored	Number of residents who experienced an unplanned weight loss over three consecutive months
<b>Comments</b> <ul style="list-style-type: none"> <li>• <b>Required</b> if applicable – explain any difference between total residents and number of residents weighed, for example, ‘Two residents died, one in hospital on second weigh day’.</li> <li>• <b>Required</b> if applicable – indicate the number of residents who appeared in both parts of the indicator, that is they lost more than three kilograms and lost weight for three consecutive months, for example, ‘Four residents lost more than three kilograms <b>and</b> lost weight every month’.</li> <li>• <b>Optional</b> – any other comments.</li> </ul>	





## Resources

A range of resources are available to assist residential aged care services to manage a resident's nutrition and unplanned weight loss.

- Department of Health, *Standardised care process: unplanned weight loss*, State Government of Victoria, Melbourne:  
[www.health.vic.gov.au/agedcare/downloads/score/weightloss\\_scp.pdf](http://www.health.vic.gov.au/agedcare/downloads/score/weightloss_scp.pdf)
- Department of Health, *Standardised care process: dehydration*, State Government of Victoria, Melbourne:  
[www.health.vic.gov.au/agedcare/downloads/score/dehydration\\_scp.pdf](http://www.health.vic.gov.au/agedcare/downloads/score/dehydration_scp.pdf)
- Department of Health, *Well for life: improving nutrition and physical activity for residents of aged care facilities*, State Government of Victoria, Melbourne:  
[www.health.vic.gov.au/agedcare/maintaining/wellforlife\\_pubs.htm](http://www.health.vic.gov.au/agedcare/maintaining/wellforlife_pubs.htm)
- Dieticians Association of Australia 2009, 'Evidence-based guidelines for nutritional management of malnutrition in adult patients across the continuum of care', *Nutrition & Dietetics*, vol. 66, suppl. 3, S1–S34:  
[www.clinicalguidelines.gov.au/browse.php?treePath=&pageType=2&fldglrID=1617&](http://www.clinicalguidelines.gov.au/browse.php?treePath=&pageType=2&fldglrID=1617&)

## Evidence to support this quality indicator

This indicator highlights unplanned weight loss as a major issue among older people.

There is substantial evidence and research that demonstrates unplanned weight loss is significant among older people living in residential aged care.

### Defining unplanned weight loss

A review of evidence-based literature reveals that unplanned weight loss is generally referred to as unintentional weight loss. However, for the purpose of this publication, the term unplanned weight loss will be used to ensure alignment with this quality indicator.

Unplanned weight loss is generally defined as weight loss that occurs involuntarily over a period of time, that is, weight loss that occurs as a result of circumstances beyond the voluntary control of the individual (Alibhai, Greenwood and Payette et al. 2005; Hartford Institute for Geriatric Nursing 2006; Miyamoto, Higashino, Mochizuki, Goda and Koyama 2011).

Unplanned weight loss is both a symptom and consequence of disease. It remains one of the best indications of nutritional risk in residential aged care (American Dietetics Association 2010; Hartford Institute for Geriatric Nursing 2006; Moreley, Anker and Evans 2009).

Unplanned weight loss is generally a clinical symptom of another disease process or syndrome including:

- protein-energy malnutrition
- anorexia of ageing
- sarcopenia
- illness and/or disease severity
- polypharmacy – medication side effects and interactions.

There is a particularly close correlation between unplanned weight loss and protein-energy malnutrition. Prevalence of malnutrition in the residential aged care setting ranges from 40–70 per cent (Watterson et al. 2009).

Two key Australian studies have concurred that the prevalence of malnutrition in residential aged care is approximately 50 per cent (Banks, Ash, Bauer and Gaskill 2007; Gaskill et al. 2008). In addition to this, those most at risk are residents over the age of 90 and/or those with high-level care needs (Banks et al. 2007; Gaskill et al. 2008; Watterson et al. 2009).

Normal weight loss for the older person can be expected to be only 0.1–0.2 kg a year (Wallace and Schwartz 2002).

The Dieticians Association of Australia (Watterson et al. 2009) has identified that measuring weight loss over time can predict malnutrition.

However, there is some variation regarding the definition of clinically significant weight loss in relation to malnutrition.

The ICD-10AM criteria for the diagnosis of malnutrition is as follows:

**Severe:** BMI less than 18.5 kg/m<sup>2</sup> **or** unintended weight loss of more than 10 per cent

**Mild and moderate:** BMI less than 18.5 kg/m<sup>2</sup> **or** unintended weight loss of more than 5–9 per cent.

The National Institute for Health and Care Excellence (NICE) in the UK provides three options for defining malnutrition:

- BMI less than 18.5 kg/m<sup>2</sup>
- unintentional weight loss of more than 10 per cent in the last three to six months
- BMI less than 20kg/m<sup>2</sup> **and** unintentional weight loss of more than 5–9 per cent.

The minimum dataset used in the United States defines unintentional weight loss as a decrease of more than 5 lbs (2.3 kg) in one month, or more than 10 lbs (4.5 kg) in six months.

### Unplanned weight loss in aged care

Unplanned weight loss is highlighted in the literature as a significant health issue among older people, particularly those living in aged care facilities. Statistics regarding its prevalence vary.

Study data from Alibhai et al. (2005), Ruscini et al. (2005) and Payette et al. (2000) report the range of unplanned weight loss in adults over the age of 65 as 13–27 per cent. Whereas an older study by Finch et al. (1998) has indicated that the prevalence is 31 per cent for those over the age of 65 in long term care.

Unplanned weight loss should not be dismissed as natural age-related change (McMinn et al. 2011). Many causes of weight loss can be addressed if detected early (Dyke 2011). Nurses and other members of the care team play an important role in screening residents at risk of malnutrition or where there is clinical concern, and ensure they receive adequate nutritional care (Chen et al. 2007; Hickson 2006; Merrell 2012; Watterson et al. 2009).

In the United States, weight loss is a key indicator of care provision in the long-term care environment (Morley et al.

2004). The Centers for Medicare and Medicaid Services (CMS) define unplanned weight loss in terms of avoidable and unavoidable. The focus is on the care provider's standards of practice in the identification, implementation, monitoring and evaluation of weight loss issues.

Avoidable weight loss is identified when it is evident that the care provider has failed to maintain standards of practice in nutritional management. Unavoidable weight loss is established when it is clear that despite adherence to practice standards, the resident continues to lose weight.

### Adverse clinical events and unplanned weight loss

There are a number of adverse events that may occur as a result of unplanned weight loss in the elderly. These issues have a significant effect on the quality of life of older people in aged care (American Dietetic Association 2010; Banks et al. 2010; Beatty et al. 2014; Courtney et al. 2009; Dyke 2011; Metadladis et al. 2008; Watterson et al. 2009).

Although it should be noted that for 10–36 per cent of older people, the aetiology of weight loss is unknown (Hartford Institute for Geriatric Nursing 2006).

Evaluated evidence suggests that unplanned weight loss among older people has a direct correlation with an increased risk of mortality (ADA 2010; Australian and New Zealand Society for Geriatric Medicine 2007; Beatty et al. 2014; Challa 2007; Tamura et al. 2013) within one year (Thomas et al. 2013).

This point is also supported by the British Geriatrics Society (2011), who state: 'a number of studies have now shown that the relative risk of death is consistently highest in those underweight than those overweight and in older people this may be even higher than those who are obese' (p. 2).

This risk is further increased when unplanned weight loss is classified as clinically significant.

Unplanned weight loss increases the rate of bone loss, particularly in the hip (McMinn et al. 2011; Reynaud-Simon 2009). Where weight loss is five per cent or more from baseline weight, it will double the risk of falls and hip fractures among older people (Australian and New Zealand Society for Geriatric Medicine 2007; Watterson et al. 2009). Evidence also links unplanned weight loss to the development of pressure injuries (ADA 2010; Australian and New Zealand Society for Geriatric Medicine 2007; Challa 2007; Iizaka et al. 2010; Reynaud-Simon 2009).

Wound healing is also impaired by poor nutritional intake, especially a poor intake of protein (Challa, 2007; BAPEN, 2012; Gaillard et al. 2008; Reynaud-Simon 2009). Inactivity or becoming bed bound can occur due to functional decline, loss of strength and mobility (BAPEN 2012; Challa 2007). In turn this can increase the risk of pressure injury development and poor recovery from chest infection (BAPEN 2012; National Collaborating Centre for Acute Care UK 2006).

### Causes of unplanned weight loss

There are a number of reasons why unplanned weight loss may occur in older people living in residential aged care.

Unplanned weight loss in the elderly is a highly complex and multifaceted health concern that can involve social, environmental, emotional, psychiatric and physiological issues (Crogan and Evans 2009; Hartford Institute for Geriatric Nursing 2006; Dyke 2011; Strajkovic et al. 2011; Van Lanker et al. 2012).

Pain, illness, chronic, malignant and neurological disease can all contribute to weight changes in the older person (ADA 2010; McMinn et al. 2011; SCIE 2009).

But it is the growing prevalence of dementia and its link to weight loss that raises concern. Several studies indicate that the presence of dementia is linked to unplanned weight loss.

The current evidence is described in the report on Nutrition and Dementia published by Alzheimer's Disease International (Prince et al. 2014). Dementia certainly affects the areas of the brain responsible for the control of appetite and energy (Prince et al. 2014).

Weight loss can commence long before the symptoms of cognitive decline appear and increase as the disease progresses (Albanese et al. 2013; Kurrle et al. 2012; Miyamoto et al. 2011).

According to the Australian Institute of Health and Welfare (2012), 53 per cent of nursing home residents (nationally) have a diagnosis of dementia. A study by Irving (2003) found that residents with dementia exhibit a much lower body mass index compared with residents without dementia.

When considering the relationship between unplanned weight loss and dementia, take into account the behavioural and other characteristics of dementia that could result in unplanned weight loss. Authors such as Prince et al. (2014), Kurrle (2012), Aselage et al. (2010), Chang and Roberts (2008), Miyamoto et al. (2011), Gaskill et al. (2008) and Smith and Greenwood (2008) have explored these issues.

They include factors such as:

- pacing and wandering resulting in untreated increased caloric intake needs
- inability to feed self
- no longer knowing how to eat (apraxia)
- decline in communication skills
- inability to recognise food as food (agnosia)
- paranoia and mistrust regarding food
- forgetting to eat.

Some of these behaviours are described as aversive.

Gillette-Guyonette et al. (2007) describe aversive feeding behaviours as:

- dyspraxia and agnosia – unable to use utensils properly or recognise food
- resistance – avoiding food, refusing to open mouth, spitting out the food, and aggression towards the person assisting them
- oropharyngeal dysphagia – problems with control with mouth, tongue and swallowing
- changed behaviours and food preferences – wandering, refusal to eat requested food, altered preferences for taste or texture of food.

Many studies discuss the presence of protein energy malnutrition (PEM) among residents in aged care. PEM is the loss of lean body mass and adipose tissue that occurs as a result of low consumption of energy and protein (Reynaud-Smith 2009; Suominen et al. 2009; Australian and New Zealand Society for Geriatric Medicine 2007). Unplanned weight loss is a symptom of PEM (Miyamoto et al. 2011).

Another concept explored in the literature is physiological age-related changes. While weight loss and malnutrition are not an inevitable consequence of ageing, the physiological changes that occur in older adults can increase the risk of it occurring (Hickson 2006).

These changes include:

- decreased senses of taste and smell
- changes to dentition (i.e. loss/damage of teeth, poorly fitting dental prosthesis, poor oral health)
- early satiety (feeling fuller quicker)
- reduced appetite
- changes in the gastrointestinal tract that lead to poor nutrient absorption
- reduction in cellular capacity to store water
- increased frailty
- swallowing difficulties
- reduced eye sight.

These changes all contribute to unplanned weight loss (ADA 2010; Australian and New Zealand Society for Geriatric Medicine 2007; Benelam 2009; Dyke 2011; Gaskill et al. 2008; Tamura et al. 2013).

This process of age-related physiological change is sometimes called 'anorexia of ageing' (ADA 2010; Australian and New Zealand Society for Geriatric Medicine 2007; Reynaud-Smith 2009; Smith and Greenwood, 2008).

There is also a correlation between unplanned weight loss in the elderly and polypharmacy, medication side effects and interactions (ADA 2010; Beatty et al. 2014, Hartford Institute for Geriatric Nursing 2006; Strjkovic et al. 2011).

Polypharmacy is a significant health issue among older people. It can cause nausea, vomiting, diarrhoea, anorexia and dysgeusia (distortion of taste) (Alibhai et al. 2005; McMinn et al. 2011; SCIE 2009). These are all factors that can lead to unplanned weight loss. Research conducted by Agostini and colleagues (2004) demonstrated that the risk of weight loss among older people increased with the more medicines they consumed.

Limited research has been conducted regarding the relationship between the 'eating environment' in residential aged care and unplanned weight loss by authors such as Nijs et al. (2006).

A more recent study by Ulrich et al. (2014) identified that protected meal times and proactive nutritional support overseen by nurses are necessary components to the management of unplanned weight loss and malnutrition in residential facilities.

Staffing issues can also affect unplanned weight loss in residents, including:

- resourcing and failure to prioritise staff duties to provide adequate assistance at meal times (Chubb et al.; Dyke 2011; 2006; SCIE 2009; Taumra et al. 2013; Ulrich et al. 2014)
- poor staff knowledge and/or training in nutritional care (Chubb et al. 2006; SCIE 2009)
- systems and practices that either fail to identify the nutritional needs of residents or fail to communicate these needs to staff (Chubb et al. 2006; SCIE 2009)
- inadequate support, particularly for residents who are unable to communicate their nutritional needs, choices and preferences verbally (Carrieret al. 2007; SCIE 2009; Ulrich et al. 2014).

Issues related to the quality of, and access to, food choices that meet residents' cultural, religious and personal food preferences should be considered (Crogan and Evans 2009; Dyke 2011; SCIE 2009).

Authors such as Brush and Calkins (2008) and Smith and Greenwood (2008) discuss the value of adjusting the eating environment to improve eating among residents, especially those with dementia.

Adjustment strategies include:

- reduction of visual and auditory stimulation
- limiting courses of food to one at a time (to limit confusion over choice)
- use of appropriate lighting
- increasing visual contrast between table linen and crockery (for example, if both table linen and crockery are white, residents may not be able to distinguish the location of food).

Depression and other psychological factors can also cause unplanned weight loss (ADA 2010; Chen et al. 2007; Crogan and Evans 2009; Hartford Institute for Geriatric Nursing 2006; McMinn et al. 2011; SCIE 2009; Tamura et al. 2013). In fact, Dyke (2007, 2011) has indicated that the risk of weight loss in residents with depression is three times higher than those without depression.

Depression among older people in Australia is a growing concern (Dow et al. 2011). A recent systematic review of prevalence data relating to psychological issues in residential aged care facilities found that 4–82 per cent of older people have depression to some degree (Seitz et al. 2010). McMinn et al. (2011) state that older people with depression may experience unplanned weight loss due to loss of appetite and a reduced motivation to eat.

This leads to discussion about the nature of weight loss and functional decline. Age-related physiological changes also involve the loss of muscle mass and strength, a condition called sarcopenia (ADA 2010; Miller and Wolfe 2008; Morley et al. 2006). This can impair residents' functional ability by 30–50 per cent, as well as compromise the person's ability to eat independently (Paddon-Jones et al. 2008; Ullrich et al. 2014).

Functional decline associated with chronic disease can also lead to unplanned weight loss.

The American Dietetics Association (2010) states that chronic disease may lead to prescribed or self-imposed dietary restrictions and food intake that limits food variety

and the intake of nutrients. For example an individual with heart disease may limit or eliminate all fats and foods containing fats. Where possible, restrictive diets should be avoided (ADA 2010).

The practical physical limitations that occur as a result of chronic disease should also be considered. For example an individual with chronic obstructive pulmonary disease (COPD) may find it too difficult to prepare meals due to shortness of breath or may become short of breath while eating, and as result may only eat partial amounts of meals. Similarly a person with Parkinson's disease may be unable to prepare meals due to reduced dexterity as a result of tremors, and may require partial or full assistance with eating, leading to similar outcomes to those individuals with COPD.

There are other broader issues that can contribute to unplanned weight loss among older people.

These issues can be best explained using the mnemonic MEALSONWHEELS (Morley et al. 1995). This mnemonic is used by a number of authors such as Australian and New Zealand Society for Geriatric Medicine (2007) and McMinn et al. (2011) to provide broad explanations of unplanned weight loss in older people.

<b>M</b>	<b>Medication effects</b>
<b>E</b>	<b>Emotion and depression</b>
<b>A</b>	<b>Alcoholism</b>
<b>L</b>	<b>Late-life paranoia</b>
<b>S</b>	<b>Swallowing disorders</b>
<b>O</b>	<b>Oral factors such as poor dentition</b>
<b>N</b>	<b>No money (to buy food)</b>
<b>W</b>	<b>Wandering and other dementia-related behaviours</b>
<b>H</b>	<b>Hyperthyroidism and hypothyroidism</b>
<b>E</b>	<b>Enteric problems (malabsorption)</b>
<b>E</b>	<b>Eating problems (inability to feed self)</b>
<b>L</b>	<b>Low salt, low cholesterol diet</b>
<b>S</b>	<b>Social problems such as isolation, difficulty accessing food</b>



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## Section 4: Information for stakeholders

## Section 4: Information for stakeholders

This section contains four separate information sheets for different stakeholders:

### General practitioner

For general practitioners who provide care to residents in a public sector residential aged care service.

Note this information is also useful for other visiting health professionals such as dentists, occupational therapists, physiotherapists, speech pathologists and dietitians.

### Clinical and care team

For managers and quality coordinators for public sector residential aged care services, registered nurses, enrolled nurses, personal carers, allied health professionals and lifestyle workers.

### Resident and family

For residents of public sector residential aged care services, their family and advocates.

### Board directors and executives

For board directors, chief executive officers and executive directors of nursing of Victorian public sector health services.

There are also information sheets for each of the three types of quality indicator reports forwarded to services:

### The detailed reports

For managers and staff of public sector residential aged care services.

### The summary report

For boards and executives of public health services.

### Reports for consumers

For residents, their families and advocates.

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# Quality indicators in public sector residential aged care services

## Information for general practitioners

In Victoria, every public sector residential aged care service (PSRACS) is invited to participate in the quality indicator program.

The program measures five important aspects of care:

- pressure injuries
- falls and fall-related fractures
- physical restraint
- use of nine or more medications
- unplanned weight loss.

These areas can all have serious and potentially catastrophic impacts on health and quality of life for residents. Monitoring and measuring performance in these areas is vital to support quality care and continuous improvement.

A quality indicator is usually calculated as a rate by counting how often an event (for example, physical restraint) occurs over a period of time in each PSRACS. The rates for each quality indicator are compared internally, externally with all PSRACS across Victoria, and against a pre-determined reference range.

Every three months, each PSRACS submits information to the Victorian Department of Health and Human Services, which processes the data and provides the PSRACS with detailed reports about the five indicators.

The program complements but does not replace other resident safety, risk, quality improvement, accreditation and innovation activities.

The program does not and cannot say whether the care in the service is right or wrong; or whether it is good or bad. It only tells us if rates change or are different in other PSRACS.

## Information sources

Most PSRACS have a staff member who coordinates the collection and reporting of quality indicator information (usually the manager or the quality coordinator).

Information is gathered from residents' progress notes, care plans, observation and medication charts and incident reporting systems. Privacy is protected as information submitted to the department does not contain identifying information about any resident.

## The role of GPs

The quality indicators are a reflection of how clinical and support staff provide care. GPs' views are vital in order to interpret the data.

Any changes to improve resident care will also require GP involvement.

The most obvious area is the review and rationalisation of medication, but other indicators require resident assessment, diagnosis and implementation of preventive measures.

The goal is to respond proactively to quality indicator information and reduce harm.

## Improving quality of life for residents

A statewide survey that examined the use of all five indicators found these would trigger a review of care for the individual resident (62–79 per cent); staff practice (45–63 per cent) and the whole system (45–55 per cent). Following these reviews, beneficial changes in care for residents occurred in 58–75 per cent of occasions.

GPs have a vital contribution to make in examining practice to understand changes in the quality indicator rate. All five indicators address a clinical risk area and require medical expertise to interpret the data, reduce harm and improve care.

## Other areas of care

The five quality indicators cover a limited number of areas. They were chosen through consultation with experts and research evidence.

There are many other important areas of risk such as constipation, pain, depression, delirium and palliative care that services need to monitor through other programs.

It is not possible or desirable to measure every aspect of care through quality indicators.

The limited number of indicators chosen in this suite are important measures that have a broad impact across a number of other care areas.

## Actions to take

Be familiar with the quality indicators and the program.

Ask questions.

Ask for the quality indicator reports.

Ask to be involved with interpreting the information and contribute ideas to improve care.

Be thorough, clear and accurate when completing documentation about care provided to each resident.

# Quality indicators in public sector residential aged care services

## Information for the clinical and care team

In Victoria, every public sector residential aged care service (PSRACS) is invited to participate in the quality indicator program.

The program measures five important aspects of care:

- pressure injuries
- falls and fall-related fractures
- physical restraint
- use of nine or more medications
- unplanned weight loss.

These areas can all have serious and potentially catastrophic impacts on health and quality of life for residents. Monitoring and measuring performance in these areas is vital to support quality care and continuous improvement.

A quality indicator is usually calculated as a rate by counting how often an event (for example, physical restraint) occurs over a period of time in each PSRACS. The rates for each quality indicator are compared internally, externally with all PSRACS across Victoria, and against a pre-determined reference range.

Every three months, each PSRACS submits quality indicator information to the Victorian Department of Health and Human Services. The department collates and calculates the quality indicator rates and summarises the information for each PSRACS and the Victorian PSRACS state rate. Each PSRACS receives a series of detailed reports about five the quality indicators.

The program complements the many other resident safety, risk, quality improvement, auditing, accreditation and innovation activities. It does not replace any of these activities.

The program does not and cannot say whether the care in the PSRACS is right or wrong; or whether it is good or bad. It only tells us if rates change or are different in other PSRACS.

## Information sources

Most PSRACS have a staff member who coordinates the collection and reporting of quality indicator information (usually the manager or the quality coordinator).

Information is gathered from residents' progress notes, care plans, observation and medication charts and incident reporting systems. Privacy is protected as information submitted to the department does not contain identifying information about any resident.

## The role of the clinical and care team

Quality indicators are a reflection of how the clinical and care team, and the service, provide care.

The views of staff at the point of care need to be sought in order to sensibly interpret any changes in rates. In addition, the clinical and care team will need to action changes to improve resident care.

## Improving quality of life for residents

Each PSRACS receives quarterly reports from the department describing how the service is performing in the each of the five quality indicators.

It is up to you, alongside the managers, executive, other health professionals and residents, to interpret and question the information, and decide what areas of improvement may be required.

For example, if a service's performance in the falls indicator shows there are more fractures than last year or there are more fractures compared with the state average, this is an alert or a warning sign.

It should trigger a review of practice to understand why this change occurred. Exploring the reasons for this change provides an opportunity to improve care and reduce the incidence of falls and fall-related fractures.

## Other areas of care

The five quality indicators cover a limited number of areas. They were chosen through consultation with experts and research evidence.

There are many other important areas of risk such as constipation, pain, depression, delirium and palliative care that services need to monitor through other programs.

It is not possible or desirable to measure every aspect of care through quality indicators.

The limited number of indicators chosen in this suite are important measures that have a broad impact across a number of other care areas.

## Actions to take

Be thorough, clear and accurate when completing documentation about care provided to each resident.

Take special notice when one of the events described by the quality indicator occurs, as this may be examined in detail later to understand a change in the quality indicator rate.

Be familiar with the quality indicators and the program.

Ask questions.

Ask for the full series of quality indicator reports.

Ask to be involved with interpreting the information and contribute ideas to improve care.

Ask for training about how to explain the reports to residents and families.

# Quality indicators in public sector residential aged care services

## Information for residents and families

In Victoria, every public sector residential aged care service (PSRACS) is invited to participate in the quality indicator program.

The program measures five important aspects of care:

- pressure injuries
- falls and fall-related fractures
- physical restraint
- use of nine or more medications
- unplanned weight loss.

These areas can all have serious and potentially catastrophic impacts on health and quality of life for residents. Monitoring and measuring performance in these areas is vital to support quality care and continuous improvement.

A quality indicator is usually calculated as a rate by counting how often an event (for example, physical restraint) occurs over a period of time. The rates for each quality indicator are compared internally, externally with all PSRACS across Victoria, and against a pre-determined reference range.

Every three months, each PSRACS submits information to the Victorian Department of Health and Human Services. The department collates the information and provides reports about each of the quality indicators to services.

These reports compare performance in three different ways:

- within the individual service
- across more than 180 other PSRACS in Victoria
- with previously agreed reference ranges.

The program complements the many other resident safety, risk, quality improvement, accreditation and innovation activities. It does not replace any of those activities.

The program does not and cannot say whether the care in the service is right or wrong; or whether it is good or bad. It only tells us if rates change or are different in other PSRACS.

## Information sources

Most PSRACS have a staff member who coordinates the collection and reporting of quality indicator information (usually the manager or the quality coordinator).

Information is gathered from residents' progress notes, care plans, observation and medication charts and incident reporting systems. Privacy is protected as information submitted to the department does not contain identifying information about any resident.

## The role of residents and families

The quality indicators help to improve care of residents. The views of residents, families and their advocates should be considered by services when interpreting and responding to the QI data.

## Improving quality of life for residents

Each service receives quarterly reports from the department describing how the service is performing in each of the five quality indicators.

The managers, executive, care staff of the service, and other health professionals (such as doctors) interpret and question the information and decide how improvements can be made.

For example, if a service's performance in the falls indicator shows there are more fractures than last year or there are more fractures compared with the state average, this is an alert or a warning sign.

It should trigger a review of practice to understand why this change occurred. Exploring the reasons for this change provides an opportunity to improve care and reduce the incidence of falls and fall-related fractures.

This may include additional training for staff, purchasing new equipment and changing how care is delivered.

In another example, when the department collated all the reports about pressure injuries, it decided to make statewide changes by purchasing pressure-relieving mattresses and implementing standard methods to assess the risk of pressure injuries.

## Other areas of care

The five quality indicators cover a limited number of areas. They were chosen in consultation with experts and research evidence.

There are many other important areas of risk such as constipation, pain, depression, delirium and palliative care that services need to monitor through other programs.

It is not possible or desirable to measure every aspect of care through quality indicators.

The limited numbers of indicators chosen in this suite are important measures that have a broad impact across a number of other care areas.

## Actions to take

Ask questions.

Ask for the quality indicator report.

Ask staff to explain the report.

Ask to be involved with interpreting the information and contribute ideas to improve care.



# Quality indicators in public sector residential aged care services

## Information for board directors and executives

In Victoria, every public sector residential aged care service (PSRACS) is invited to participate in the quality indicator program.

The program is recognised both nationally and internationally and provides practical, meaningful measures to assist services improve resident care. It focuses on one of the many dimensions of quality, namely safe care and measures five important areas:

- pressure injuries
- falls and fall-related fractures
- physical restraint
- use of nine or more medications
- unplanned weight loss.

These areas can all have serious and potentially catastrophic impacts on health and quality of life for residents. Monitoring and measuring performance in these areas is vital to support quality care and continuous improvement.

The quality indicators are calculated as a rate by counting how often an event (for example, physical restraint) occurs over a period of time in each PSRACS. The rates for each quality indicator are compared internally, externally with all PSRACS across Victoria, and against a pre-determined reference range.

Every three months, each PSRACS submits quality indicator information to the Victorian Department of Health and Human Services. The department collates and calculates the quality indicator rates and summarises the information for each PSRACS and the Victorian PSRACS state rate. Each PSRACS receives a series of detailed reports about the five the quality indicators.

The program complements the many other resident safety, risk, quality improvement, accreditation and innovation activities. It does not replace any of those activities.

The program does not and cannot say whether the care in the PSRACS is right or wrong; or whether it is good or bad. It only tells us if rates change or are different in other PSRACS.

The department does not use the quality indicator data for individual services as part of any performance framework. Any interpretation and response to each service's data requires the consideration of local issues and circumstances that may be influencing performance.

It is therefore the responsibility of each service to monitor and respond to quality indicator data as a part of their usual accountability for quality care and service improvement.

## Information sources

Most PSRACS have a staff member who coordinates the collection and reporting of quality indicator information (usually the manager or the quality coordinator).

Information is gathered from residents' progress notes, care plans, observation and medication charts and incident reporting systems. Privacy is protected as information submitted to the department does not contain identifying information about any resident.

## The role of the board and executive

The board and executive are responsible for the governance, leadership and oversight of safe, high quality resident care.

This includes ensuring that organisational responses to the quality data are appropriate, so:

- be familiar with the quality indicators, the program and the reference ranges developed for each indicator
- ensure your organisation is an active participant in the program
- ask to see a full series of the quality indicator reports, and ask questions
- question whether the data collection systems and supports available to staff are sufficient to ensure accurate and reliable information is being reported and acted on
- ensure that targets are set to determine priorities for action along with realistic timelines for achieving the desired level of performance. Optimal care requires setting an aspirational target, which requires planning and focused effort over time to achieve, and
- be aware that the resources developed by the department to assist services understand the quality indicator program include a risk-management framework for each indicator to guide efforts towards improving care.

## Additional information

The board and executive will need information beyond that provided by the quality indicator program.

The five quality indicators cover a limited number of areas. They were chosen as the high-priority risk areas for older people living in PSRACS by consultation and research evidence.

There are other care risk areas for older people such as constipation, pain, depression and delirium that will require monitoring but are not currently part of the QI program.

Important information relating to how well care is coordinated and reflects the personal preferences of residents will need to be sourced from other information system sources in your organisation.

# Quality indicators in public sector residential aged care services

## Detailed quality indicator reports

These reports support management and staff to better use their quality indicator data for monitoring quality care provision and determining appropriate responses for service improvement.

**Five separate charts** for each indicator group.

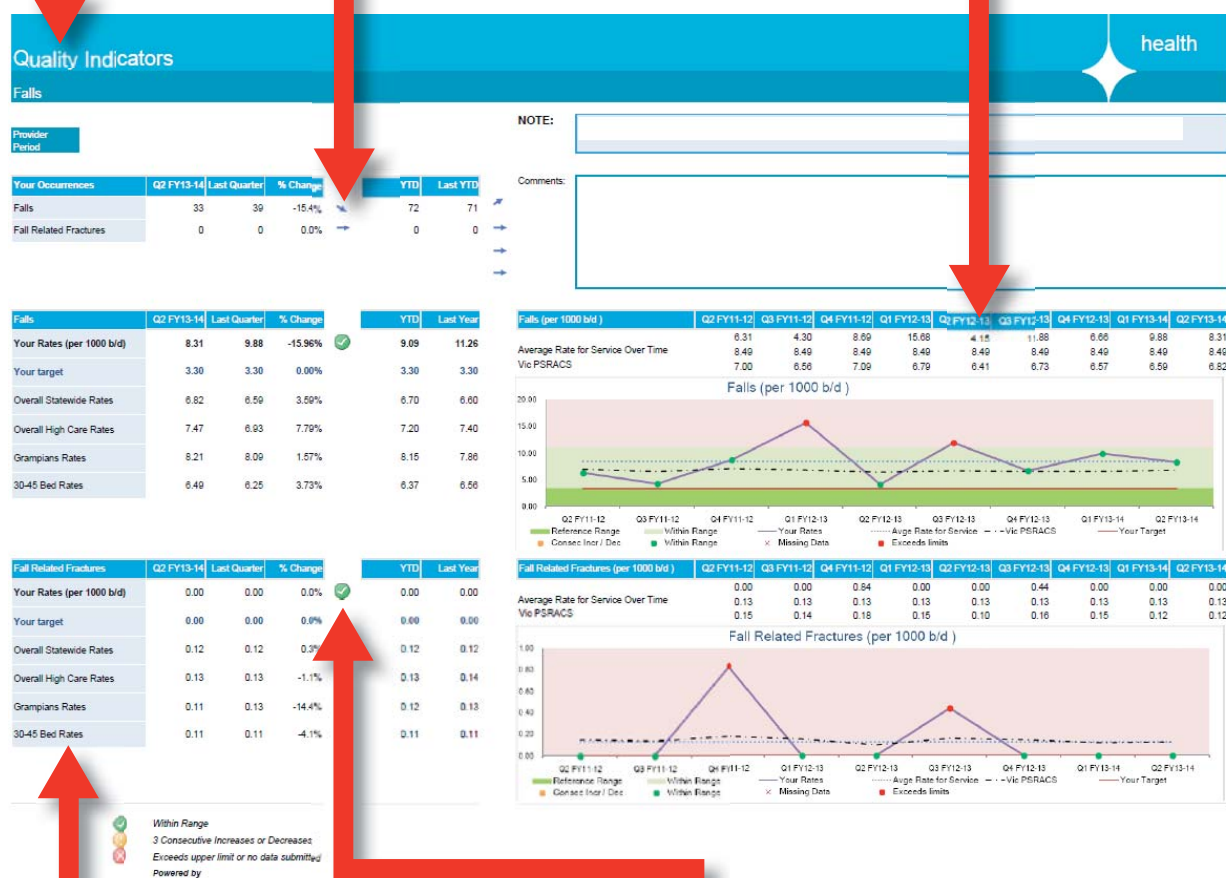
### Real numbers

With comparisons to last quarter and the year-to-date complete with a pre-calculated percentage change. Blue arrows show increases and decreases.

### Quality monitoring charts

A number of features are built into the QMC that will indicate positive or negative trends including:

- your service rate and the state rate
  - the reference range target and the upper limit
  - trigger points which can prompt review or action.
- For more on quality monitoring charts see the quality monitoring chart section below.



**Compare your performance** with the PSRACS state rate and with other services in your region or services with similar numbers of places.

**Traffic light indicators** allow you to evaluate this quarter's results at a glance.

Each detailed quality indicator report includes:

- a separate report for each of the five indicators
- real number comparisons
- quality monitoring charts (QMC) to support analysis against the reference ranges and the PSRACS state rate
- comparisons with a range of rates, including like services, regional services and high and low level care services
- traffic light icons to indicate where results fall within reference ranges, or if a trigger point has been reached to prompt a review of a trend.

## Compare your performance

The reports present a PSRACS rate (per 1,000 bed days) together with additional rates for comparison to support greater interrogation of your data including:

- the state rate
- high/low comparison
- regional comparison (with all services in your region)
- similar-sized service comparison (grouped by bed size).
- services can compare quarterly data with average 'year to date' results, and compare current quarter's results with the same quarter last year.

## Assess results at a glance

All comparison rates include a traffic light icon to provide an indication of results and issues that may require closer monitoring or a response by each service.

**Red:** result exceeds the upper limit of the reference range

**Amber:** three consecutive increases or decreases constitute a trigger point

**Green:** the result is within range.

## Quality monitoring charts

The QMC show a graphical representation of:

- PSRACS rate
- state rate
- average rate for your service (over the nine quarters shown on the graph)
- reference ranges.

The reference ranges are displayed graphically on the chart and indicate if your individual service has a rate:

- in the dark green zone, this result is considered to be within the lower limit and an optimal level of performance.
- in the light green zone, this result is within an acceptable range and could be considered as having potential for improvement.
- in the red zone, this result is above limit rate and outside an acceptable range. Any quality indicator result in this zone requires immediate attention.

A complete understanding of the data requires examining trends and rates of change over time, both internally and externally using the state rate and the reference ranges.

# Quality indicators in public sector residential aged care services

## Reports for consumers

Reports have been designed specifically for residents, their families and advocates about important aspects of care. You may want to discuss the results with an appropriate staff member.

### What is being measured?

The top of each chart explains what is being reported and over what time frame.

There is a separate report for falls, fractures, pressure injuries, 9 or more medicines, restraint of residents, equipment used to restrain, and unplanned weight loss.

### Compare occurrences

The blue bar graph shows the actual number of occurrences of each measure over the three month period.

### Compare occurrences

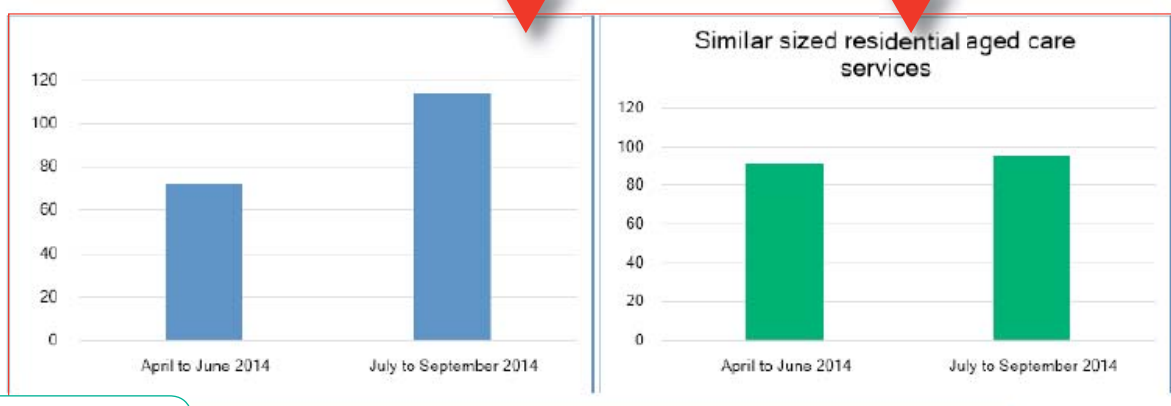
The green bar graph shows the average number of occurrences for each measure in similar sized services. This graph can be used to compare your service to others.



### Falls at

#### Results for July to September 2014

114 Times where residents fell in the last three months  
This was more than for April to June 2014



The line graph at the bottom gives an indication of how the service has performed over the last 5 years. This example shows a reduction in the number of falls over time.



# Quality indicators in public sector residential aged care services

## Summary reports

A summary report has been designed to give high level information to health service boards and executives about five important aspects of care: pressure injuries, falls and fall-related fractures, use of physical restraint, use of nine or more medicines, unplanned weight loss.

These are provided as individual and aggregated report form for all PRACS operated by each health service. The reports assist in monitoring and determining appropriate responses to the quality indicator data as part of quality care provision and service improvement.

