

Continence care for older people receiving aged care services in the community and in residential aged care facilities

**The National Ageing Research Institute
prepared this report on behalf of the Australian
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Glossary of Abbreviations and Terms

Abbreviation/term	Description
Absorbent products	Absorbent products are those that have been specifically developed to help manage leakage or soiling, such as absorbent pads and pants, absorbent bed sheets and chair covers
Anal/anorectal incontinence	Complaint of involuntary loss of flatus or faeces
Bladder diary	Adds to the Frequency Volume Chart (FVC), the fluid intake, pad usage, incontinence episodes, the degree of incontinence and the circumstances at the time of the leakage. Episodes of urgency and sensation might also be recorded, as might be the activities performed during or immediately preceding the involuntary loss of urine. Additional information obtained from the bladder diary involves, severity of incontinence in terms of leakage episodes and pad usage
Bowel diary	A recording of bowel actions. Elements that might be included: (i) urgency; (ii) fecal incontinence (amount, consistency); (iii) flatus incontinence; (iv) passive staining/soiling (tends not be discrete episodes); (v) pads (changes, degree of soiling); (vi) straining/difficulty/time in the toilet; (vii) unsuccessful attempts to defecate; (viii) assistive measures (e.g. digital stimulation, manual evacuation, irrigation); (ix) laxative or rectal evacuant use; (x) diet and fluids (type and/or timing).
Constipation	Complaint that bowels motions are infrequent and/or incomplete and/or there is a need for frequent straining or manual assistance to defecate (Rome IV criteria)
Contained incontinence	Successful management of incontinence with products. It can bring substantial benefits to "quality of life", even though a cure has not been achieved
Daytime urinary frequency	Number of micturition's during daytime (awake hours, including first void after waking up from sleep and last void before sleep)
Double incontinence	Complaint of both anal/faecal incontinence and urinary incontinence
Faecal incontinence	Complaint of involuntary loss of faeces. - when faeces is solid and/or - when faeces is liquid
Lower urinary tract symptoms	A symptom related to the lower urinary tract. It may originate from the bladder, urethra, prostate (men) and/or adjacent pelvic floor or pelvic organs, or at times be referred from similarly innervated anatomy e.g. lower ureter
Mixed urinary incontinence	Complaints of both stress and urgency urinary incontinence, i.e. involuntary loss of urine associated with urgency and also

	with effort or physical exertion including sporting activities or on sneezing or coughing
Night-time urinary frequency	Total number of night-time voids irrespective of sleep, i.e. the number of voids recorded from the time the individual goes to bed with the intention of sleeping till the time the individual wakes with the intention of rising
Nocturia	The number of times urine is passed during the main sleep period. Having woken to pass urine for the first time, each urination must be followed by sleep or the intention to sleep. This should be quantified using a bladder diary
Overactive bladder syndrome (OAB)	Urinary urgency, usually accompanied by increased daytime frequency and/or nocturia, with urinary incontinence (OAB-wet) or without (OAB-dry), in the absence of urinary tract infection or other detectable disease
Pelvic floor muscles	The term pelvic floor relates to the compound structure, which closes the bony pelvic outlet. The term pelvic floor muscles refer to the muscular layer of the pelvic floor. The pelvic floor consists of different layers, including fascia, muscles, fibro-muscular and fibrous elements. All these muscles are working together to seal the lower aspect of the pelvic cavity. Urethra, vagina, and rectum pass through the pelvic floor and are surrounded by the pelvic floor muscles. The pelvic bones are the structures to which the muscular layer is attached
Post void residual	Volume of urine left in the bladder at the completion of voiding
Stress urinary incontinence	Complaint of involuntary loss of urine on effort or physical exertion including sporting activities, or on sneezing or coughing
Urge urinary incontinence	Observation of involuntary leakage from the urethral orifice associated with the individual reporting the sensation of a sudden, compelling desire to void
Urinary incontinence	Complaint of involuntary loss of urine

Adapted from the International Continence Society (ICS) Glossary¹

1. Executive Summary

Introduction

Incontinence and other bladder and bowel symptoms are prevalent in older people, particularly in older people with complex care needs. The recent Royal Commission into Aged Care Quality and Safety² reported 274,409 instances of substandard care over five years, many of which they termed ‘compromises to an older person’s dignity’. Whilst the Commissioners did not define ‘dignity’, multiple transcripts point to continence care that does not match community expectations. Recommendation 19 of the Royal Commission into Aged Care Quality and Safety recommended that an urgent review of the Aged Care Quality Standards be undertaken and that it includes considerations of a number of issues, including requiring best-practice continence care.

The burden of disease associated with bladder and bowel symptoms is high and likely to rise in our ageing population. The prevalence of bladder and bowel symptoms such as urinary incontinence, faecal incontinence, nocturia, constipation and an overactive bladder is high in older people, particularly in older people with complex care needs. This has important implications for aged care providers in terms of interventions and strategies to optimise the health and well-being of older people who access their services. Continence care is a key clinical issue in community and residential care, and a major contributing factor to complaints raised towards aged care providers in Australia. Poor practice continence care negatively impacts on older peoples’ quality of life, well-being, social relations, health, and wellbeing.

Quality and safety in continence care

The management of incontinence emerged as a key clinical issue in residential aged care during the Royal Commission into Aged Care Quality and Safety.²⁻⁴ Witness testimonies revealed multiple incidents of neglectful continence care, many of which the Commissioners termed ‘compromises to an older person’s dignity’. These include being left in wet or soiled pads or beds, and being found on the floor in an incontinent state. As the Royal Commission found, incidents like this do not match community expectations of acceptable continence care. An analysis of Aged Care Quality and Safety Commission Residential care sector performance data from July to September 2021 showed over 1,517 complaints raised, of which 98 related to ‘constipation and continence management.’⁵ Poor continence care was cited in the top 10 reasons for complaints.

Although rates of incontinence and other bladder and bowel symptoms are high in residential aged care homes, the vast majority of people with these problems live in the community, with or without support. Within this population, bladder and bowel symptoms are more likely to affect people aged 85 and older, and those with a chronic health condition and associated complex care needs. Many of these older adults access a government funded aged care service. Unfortunately, how continence care is coordinated, delivered and evaluated in the home care settings also remains unclear. There is a need to better understand the continence care needs of older Australians receiving home care services and to examine how agency-level care coordination is related to client-level quality of care.

Urinary incontinence, nocturia and overactive bladder

Incontinence is a complex biopsychosocial phenomenon. Medically, it is conceptualised as a symptom of an underlying condition that can be prevented and treated, even in frail older people.⁶ The causes of incontinence and other bladder and bowel symptoms in people with complex care needs are multifactorial and go beyond biological age-related factors to include environmental factors and social processes of care.⁶

Incontinence is a substantial concern for older Australians. Almost 6% of all Australians aged 65 years and older (220,000 Australians) live with urinary incontinence as an established condition.⁷ Rates are considerably higher in older people with complex care needs receiving care in a residential aged care home or in the community (i.e. in-home care). In Australian residential aged care homes, urinary incontinence is one of the three most significant medical conditions impacting on residents' care needs⁸. International studies estimates suggest urinary incontinence affects 50% to 70% of people in residential aged care homes⁹⁻¹² and 36% to 65% of older people receiving home care.^{13 14} In home care settings, the highest risks for urinary incontinence are poor mobility, dementia, and musculoskeletal disease.¹³

Other bladder symptoms that warrant attention in older people receiving aged care services include nocturia and overactive bladder:

- Nocturia, defined as 'waking to pass urine during the main sleep period'¹⁵ affects 1 in 4 adults in their 60s and half of adults in their 80s¹⁶
- Overactive bladder, defined as 'urinary urgency, usually with urinary frequency and nocturia, with or without urgency urinary incontinence'¹⁷ affects 40.4% of men and 46.9% of women aged 65 and older¹⁸

We found no studies about rates of nocturia or overactive bladder in older people receiving aged care services in residential aged care or in the community, but it is probable that rates are higher than the general older population.

Bladder symptoms have a significant impact on an older person's health-related quality of life.^{18 19} They increase the risk of skin breakdown (i.e. incontinence-associated dermatitis)^{20 21}, sleep disruption^{22 23}, and falls.²⁴⁻²⁷ One systematic review reports that nocturia is associated with up to 1.2-fold increased falls risk and up to 1.3-fold increase risk of fractures.²⁸

Urinary incontinence is also associated with functional decline²⁹, and is an independent predictor of death among frail older people.³⁰⁻³² It also increases the risk of an older person's admission to residential aged care.^{33 34} According to a US study³⁴, around 10% of male and 6% of female admissions to residential aged care are attributable to urinary incontinence. Applied to Australia, this would mean 5,345 males and 7,665 females are admitted to residential aged care annually due to urinary incontinence alone.

Constipation and faecal incontinence

International research suggests 23% to 67% of people in residential aged care homes experience constipation.^{35 36} Risk factors for constipation in this setting include: reduced mobility^{35 36}, impaired speech³⁵, poor appetite³⁵, the use of physical restraint³⁵, urinary incontinence³⁶, and frailty³⁶. Constipation causes a range of physical symptoms, including; nausea, bloating, abdominal pain, and straining.³⁷ Left untreated, constipation can lead to

haemorrhoids, rectal bleeding, rectal prolapse, diverticulitis, and faecal impaction.³⁸⁻⁴⁰ For frail older people, the complications caused by faecal impaction can be fatal.⁴¹

Data from New Zealand indicates that 17.3% of home care consumers have faecal incontinence.⁴² This contrasts with up to 42.8% (range 10.5-78%) in residential aged care homes.⁴³ In Australian residential aged care homes, 4.5% of permanent residents had bowel/faecal incontinence listed as one of their three most significant medical conditions impacting their care needs in 2020-2021.⁸ A systematic review⁴³ identified the following risk factors for the development of faecal incontinence in this setting: urinary incontinence⁴⁴, neurological disorders or dementia^{44 45}, impairments in activities of daily living^{44 45} and poor mobility⁴⁵. Organisational risk factors for faecal incontinence include: lower quality of care⁴⁴ and lower staff cohesion⁴⁶. More detailed information about the prevalence and risk factors associated with these bladder and bowel symptoms is provided in [Appendix 1](#). [Appendix 2](#) provides further information about the incontinence-related data items on the Aged Care Funding Instrument (ACFI) and the National Screening and Assessment Form (NSAF) and their limitations with respect to prevalence data.

The financial impact of incontinence

The most recent data about the costs associated with bladder and bowel symptoms in residential aged care homes in Australia are based on a 2011 report by Deloitte which drew on data from the 2003 Resident Classification Scale.⁴⁷ They concluded \$1.27 billion in aged care funding in 2003 could be attributed to bladder and bowel management, and assistance with toileting in Australian residential aged care homes. This equated to 32% of the total basic subsidy in 2003. Inflated to 2010 dollars (without adjusting for changes in the residential aged care population) this amount is \$1.54 billion. Hence, the Australian Institute for Health and Welfare report 30% of the total government residential aged care subsidy is used for people who need assistance with incontinence and toileting.^{48 49}

International research highlights the labour-intense nature of providing continence care in residential aged care homes. A Canadian study estimated 52% of a healthcare aides time is spent addressing a resident's need for personal care.⁵⁰ A UK study found the time required to support a person use the toilet on one occasion ranged from 5.74 for a person who is independent, to 33 minutes for a person who is unable to sit out of bed or who requires a hoist to transfer.⁵¹ Similarly, research from the US, reported the cost of proactively managing urinary incontinence in residential aged care over a six-month period in 2003 was US\$586,436 with 46% attributed to direct labour costs.⁵² The most expensive aspect of management was toileting which cost US\$36,755 overall. The total daily cost of managing urinary incontinence was US\$573 (US\$9.09 or 10.52 per resident). This is a key finding that has important implications for workforce planning, future funding and policies for residential and community aged care.

Caring for a person with incontinence at home consumes more time than caring for a person without incontinence.⁵³ A multivariate regression analysis of data from a nationally representative survey of people aged 70 and older (N=7,443) in the US found severe urinary incontinence was associated with the greatest intensity of informal care—an additional 1.3 hours per day for men and 40 minutes per day for women. Specifically:

- Men with severe urinary incontinence required 16.6 hours of care per week compared to 7.4 hours for men who are continent
- Women with severe urinary incontinence required 10.7 hours of care per week compared to 5.9 hours for women who are continent⁵³

In order to sustain caring, all carers have to breach social taboos related to touch and privacy. Qualitative research draws attention to the stigmatising and low value status of work in residential aged care homes.⁵⁴ People who live with incontinence are stigmatised⁵⁵ and those who care for them are stigmatised by association^{54 56}.

This rapid review, conducted on behalf of the Australian Commission on Safety and Quality in Health Care sought to identify the best available evidence to underpin a clinical care standard about continence care that optimises the health and well-being of older people receiving aged care services in the community and in residential aged care homes. The term 'continence care' in this document relates to activities that aim to support an older person with complex care needs to:

- Prevent the onset of bladder and bowel symptoms.
- Regain or improve bladder and bowel function, including bladder and/or bowel control (continence).
- Manage bladder and bowel symptoms
- Prevent or manage physical and emotional impacts and complications associated with bladder and bowel symptoms.

Research questions

The rapid review addressed the following research questions:

1. What are the safety and quality issues in continence care?
2. What does good continence care look like?
3. What are the current barriers to good continence care?
4. What are the best practice continence care interventions and strategies that are required to optimise the health and well-being of older people living in the community and in residential aged care facilities?
5. What are the additional considerations that may be required for people in priority groups?
6. What measures could be used to monitor improvements in continence care in older people?

What we did

We conducted a rapid scoping review in line with Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines.⁵⁷ The purpose of the review was to identify key literature relating to incontinence-related conditions and best practice continence care in aged care services (residential and community). We searched for both Australian and international published academic literature, as well as any relevant grey literature.

What we found

We summarised evidence from 82 publications, including evidence from systematic reviews, meta-syntheses and empirical studies (both quantitative and qualitative) and an international guideline for the management of incontinence. We found two core perspectives on what constitutes safety and quality in continence care for this population. One such perspective emphasises the need for care to be clinically-informed. As such, methods for investigating and treating bladder and bowel symptoms are described. The best available evidence for the

prevention and management of bladder and bowel symptoms in frail older adults, promotes a comprehensive assessment of the underlying causes, including a review of current medication which may be contributing to bladder or bowel dysfunction.⁶ To this end, this report provides information about the assessment and conservative and pharmacological treatment and management of several bladder and bowel symptoms.

The other body of research on this topic views safety and quality in continence care through the prism of the person with the lived experience. This promotes a principles-based approach to continence care. For example, a best practice model of continence care articulates continence care that is not only clinically informed, but also person-centred through supported shared decision-making, evidence-informed, dignity-protective, enabling, timely and responsive, inclusive and respectful, safe, provided by an appropriately trained and skilled workforce, and appropriately resourced⁵⁸. Similarly, an international working group of the International Continence Society (ICS) recommends the following guiding principles to help healthcare practitioners provide ethical care for older people with urinary incontinence:

- Health systems should create environments that support ethical continence care
- All older adults should be treated with dignity
- The healthcare team should elicit the older person's own goals of care
- Advanced communication should be employed in intimate continence care interactions with older adults
- Treatment should be aligned with goals of care
- The healthcare team should consider the potential burden of the treatment they recommend in the setting of multimorbidity, frailty, physical and cognitive impairments⁵⁹

Finally, several guidelines, resources, decision-support tools and technology were identified to help aged care providers clinically assess and evaluate the continence care needs of older people. They include:

- *Continence Resources for Aged Care* - freely available from the Continence Foundation of Australia website.⁶⁰
- *A Continence Care Decision Support Tool* to assist users to choose between preventative continence care, restorative continence care, maintenance continence care, and end-of-life continence care.

Gaps in evidence

The review also identified several gaps in evidence, particularly in relation to the prevalence, risks, impact and management of bladder and bowel conditions among older Australians receiving an in-home aged care service. The first major gap is the lack of a national dataset on the prevalence of incontinence or other bladder/bowel symptoms in older people receiving aged care services in either setting. There are several limitations with current incontinence-related data obtained from the Aged Care Funding Instrument (see Appendix 2). Consequently, little is known about rates or impact of bladder and bowel symptoms for older people receiving aged care services in the community or in residential aged care homes. No studies were identified about rates of nocturia or overactive bladder in this cohort. Similarly, there is limited research about the rates of incontinence and other bladder and/or bowel symptoms in First Nations older people, older people who identify as Lesbian,

Gay, Bisexual, Transgender and Gender Diverse, and/or Intersex (LGBTI) and among members of culturally and linguistically diverse (CALD) communities in Australia.

The second gap in evidence pertains to risk factors for bladder and bowel symptoms in this population. Whilst several studies provide evidence about intrinsic or individual risk factors, there is limited evidence about extrinsic or modifiable risk factors, such as the quality of the care provided and workforce structure. Therefore, the natural trajectory of continence decline and the extent to which decline is expected vs premature/reversible, is poorly understood. Data on incontinence lacks detail and context.

The third evidence gap relates to the effectiveness of interventions to prevent, reduce or manage bladder and bowel symptoms in older people receiving aged care services in Australia. Although the International Consultation on Incontinence (ICI) provides best practice recommendations for the management of bladder and bowel symptoms in frail older adults⁶, there is no national dataset to indicate whether these interventions are implemented by Australian aged care services and/or their effectiveness. Further research should investigate how aged care providers coordinate, deliver and evaluate continence care to ensure alignment with best practice recommendations. This should investigate reports about rationing or overuse of incontinence products in residential aged care homes.

This review also identified a lack of measures to evaluate the quality of continence care for people who receive aged care services in Australia. We suggest further consideration be given to the design and systematic use of quality indicators that are informed by older people and carers expectations, preferences and values.

Recommendations

The review generated the following recommendations for aged care providers. These recommendations are detailed in the body of the report:

1. Identify incontinence and other bladder and bowel symptoms in the older person
2. Identify, document and communicate the older person's continence care values, goals and preferences through a supported shared decision making process.
3. Consider the needs of care partners in planning care (i.e. person/s identified by the aged care resident, or their representative, with whom they have a close and continuing relationship, such as a family member or close friend)
4. Adopt evidence-informed clinical pathways, guidelines and models of care to guide continence care
5. Ensure the workforce has the knowledge and skills to care for an older person with continence care needs
6. Access advanced and specialist support to ensure quality and safety in continence care
7. Adopt a multi-modal approach to the care of older people with bladder and bowel symptoms
8. Implement lifestyle interventions as first line therapy for bladder and bowel symptoms
9. Ensure the older person has the support they need to maintain or improve their mobility and functional skills
10. Ensure the older person has the support they need to use the toilet in a timely manner

11. Ensure the physical environment optimises the older person's ability to maintain continence
12. Ensure the appropriate use of continence aids and incontinence products
13. Ensure the older person has the support they need to change incontinence products in a timely manner
14. Implement a skin care program for the prevention and management program of incontinence-associated dermatitis
15. Avoid the use of drugs for bladder symptoms such as urinary incontinence, nocturia and overactive bladder in frail older adults
16. Ensure the appropriate use of laxatives for the prevention and management of constipation

2. Methods

We conducted a rapid scoping review in line with Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines.⁵⁷ The purpose of the review was to identify key literature relating to incontinence-related conditions and best practice continence care in aged care services (residential and community). We searched for both Australian and international published academic literature, as well as any relevant grey literature.

Database search

We built bespoke search strategies for each database in consultation with a research librarian, using keywords and MeSH headings related to incontinence (and related conditions) and aged care services. Our search included studies published from 2010 to 2022, written in English, and based in countries with a comparable profile to Australia (i.e. North America and Europe). We searched the following databases: MEDLINE, CINAHL, EMBASE. We included all empirical studies reporting primary evidence, as well as systematic reviews and meta-syntheses. The searches were run on 02/March/2022. Some additional papers were located through snowball searching and through Google scholar. The full search strategy for MEDLINE is included in [Appendix 3](#). Similar search terms were used for the remaining databases.

Inclusion and exclusion criteria

Papers were deemed eligible if they provided evidence relevant to ensuring quality and safety in continence care, including guidelines on best practices and barriers and enablers to best practices, within aged care contexts (residential and community). We excluded studies reporting on acute or sub-acute contexts, hospice care, disability care, mental health care and primary health care. We also excluded papers studying surgical interventions, urinary catheters, ostomy and urinary retention. The inclusion and exclusion criteria were tested for inter-rater reliability on a sample of 30 papers, and then further refined through group discussion and consensus. See [Appendix 4](#) for a full list of inclusion and exclusion criteria.

Screening

Search results were uploaded into Covidence, an online systematic review platform, for screening, which automatically removed duplicates. Six reviewers (JO, EW, LK, SS, AB, AG) independently assessed each paper based on titles and abstracts, with two votes needed for inclusion, and conflicts resolved by a third vote. A full text screening was then conducted on the remaining papers, with two votes required for eligibility and conflicts resolved through a team discussion. Due to the limited time frame, we did not examine the reference lists of included papers, nor did we contact study authors to identify additional literature.

Data extraction

A data extraction template was developed through consultation between team members and data from eligible papers were extracted. Key features of included papers are summarised in [Appendix 5](#). To aid synthesis, papers were categorised according to the 6 research questions.

Assessment of the level of evidence

We assessed the level of evidence of each study using a simplified version of the John Hopkins Model of Evidence-Based Practice ⁶¹. Levels of evidence are organised into five categories, with Level 1 representing the strongest evidence (Table 1).

Table 1. John Hopkins Model of Evidence-Based Practice

Evidence Level	Description
Level 1	Experimental, randomised controlled trial (RCT), systematic review RCTs with or without meta-analysis
Level 2	Quasi-experimental studies, systematic review of a combination of RCTs and quasi-experimental studies, or quasi-experimental studies only, with or without meta-analysis
Level 3	Nonexperimental, systematic review of RCTs, quasi-experimental with/without meta-analysis, qualitative, qualitative systematic review with/without meta-synthesis
Level 4	Respected authorities' opinions, nationally recognised expert committee or consensus panel reports based on scientific evidence
Level 5	Literature reviews, quality improvement, program evaluation, financial evaluation, case reports, nationally recognised expert(s) opinion based on experiential evidence

3. Results

Of 2,532 records, 82 studies were screened as eligible, including systematic reviews, meta-syntheses and empirical studies (both quantitative and qualitative) and an international guideline for the management of incontinence. This included 62 studies from the database search and 20 from other sources. Figure 1 shows the PRISMA Chart ⁵⁷ outlining the study selection process and outcomes. Collectively, these evidence sources provide guidance about:

- What constitutes good continence care
 - Assessment
 - Treatment and management
- Barriers to good continence care
- Workforce considerations
- Additional considerations for people in priority groups
- Quality and safety measures

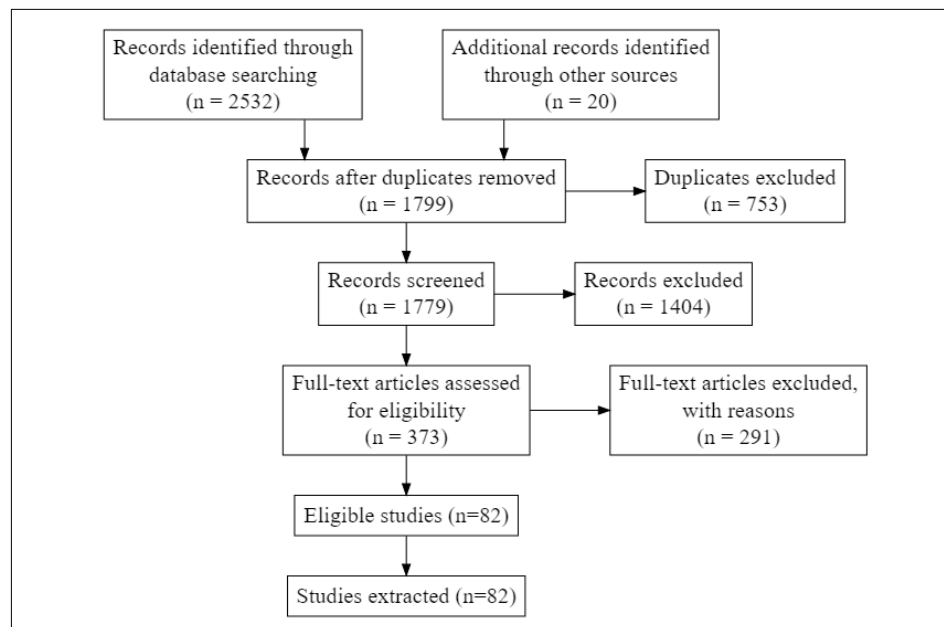


Figure 1. PRISMA Chart of study selection process

What is good continence care?

The question of what constitutes ‘good care’ and ‘good continence care’ is contested and differs from person to person. Best practice care is often conceptualised from the viewpoint of medical practitioners. However, medical models may not be optimal for residential or community aged care settings, where different staff skillsets and service requirements prevail. It is therefore necessary to consider the particular service context when defining ‘good care’ and ‘best practice’. The definition of ‘good continence care’ in this review is largely informed by the following publications:

- International Consultation on Incontinence (ICI) guidelines ⁶²
- Comprehensive Modular Service Specification ⁶³
- Best Practice Model of Continence Care in Residential Aged Care ⁵⁸

International Consultation on Incontinence (ICI) guidelines

The International Consultation on Incontinence (ICI) provides authoritative evidence-based guidelines for the management of bladder and bowel symptoms in all population groups and settings⁶², including in frail older people⁶⁴. This evidence is updated every four years. As the ICI is primarily comprised of medical specialists, the guidance is comprehensive in reflecting the clinical goals of diagnosis, cure and symptom improvement. While ICI guidelines are instructive, aged care services require more targeted and accessible guidance that addresses the biopsychosocial needs of older people living with incontinence within their particular service context.

There are many nuanced ethical considerations when caring for an older person with incontinence, particularly in the context of dementia and other conditions that affect the older person's ability to express their own preferences.⁵⁹ An international working group of the International Continence Society (ICS) recommends the following guiding principles to help healthcare practitioners provide ethical care for older people with urinary incontinence:

- Health systems should create environments that support ethical continence care
- All older adults should be treated with dignity
- The healthcare team should elicit the patient's own goals of care
- Advanced communication should be employed in intimate continence care interactions with older adults
- Treatment should be aligned with goals of care
- The healthcare team should consider the potential burden of the treatment they recommend in the setting of multimorbidity, frailty, physical and cognitive impairments⁵⁹

To promote a holistic and evidence-informed approach to the continence care needs of older adults with complex care needs, we recommend first and foremost the systematic adoption of evidence-informed clinical pathways, guidelines and models of care. Examples include the Comprehensive Module Service Specification⁶³ and the Best Practice Model of Continence Care in Residential Aged Care⁵⁸, as described below:

Comprehensive Modular Service Specification

Developed by an international group of experts⁶³, the Comprehensive Modular Service Specification consists of eight core components and promotes: case detection, initial assessment and treatment, case co-ordination, caregiver support, community-based support, specialist assessment and treatment, use of containment products, and use of technology. Within this framework important key recommendations are:

- Robust referral pathways to improve access to care
- Use of comprehensive assessment tools
- Initial assessment by nurses specialising in continence care
- Access to case coordination
- Promotion of self-management and technology; and
- Service performance targets based on outcome and operational measures

This service specification should be used guide the development of services to meet the continence care needs of adults living in the community.

Best Practice Model of Continence Care in Residential Aged Care

The Best Practice Model of Continence Care in Residential Aged Care promotes evidence-informed, safe, clinically informed, person-centred continence care that optimises a resident's functional abilities and responds to their individual needs, choices and dignity. It describes the characteristics of quality continence care for older people with continence care needs in residential aged care homes. Funded by the Continence Foundation of Australia (CFA), the model was designed by researchers from the National Ageing Research Institute (NARI).⁵⁸ The model promotes continence care that is:

- (i) Person-centred through supported shared decision-making
- (ii) Clinically informed through an assessment process
- (iii) Informed by the best available evidence
- (iv) Dignity-protective
- (v) Enabling
- (vi) Timely and responsive
- (vii) Inclusive and respectful of a resident's culture, diversity, identity and life experiences
- (viii) Safe
- (ix) Provided by an appropriately trained and skilled workforce
- (x) Appropriately resourced (Figure 2)

Further information about the model and the ten principles is provided in [Appendix 6](#).



Figure 2. The Best Practice Model of Continence Care in Residential Aged Care ⁵⁸

Assessment

As reported above, comprehensive assessment upon an older person's entry into aged care services is a fundamental component of good continence care. Here we summarise the guidelines, resources, decision-support tools and technology designed to help aged care providers clinically assess and evaluate an older person's continence care needs.

Comprehensive assessment

According to ICI best practice guidelines, a comprehensive assessment involves:

- A history and general assessment (including completion of bladder and bowel charts)
- A physical examination
- A health-related quality of life assessment
- Diagnostics including, urinalysis, estimation of post void residual urine, evaluation of renal function, uroflowmetry, imaging, endoscopy, urodynamic testing⁶².

The ICI recommend that actively identifying incontinence in the frail older person is the first step as both urinary and faecal incontinence are significantly underreported and undertreated in this group. Secondly, the assessment needs to focus on identifying and treating treatable underlying factors that can either cause or contribute to incontinence. The ICI cautions that findings from invasive testing may not contribute to decision making about treatments options and should probably be reserved for frail older people who may be considered for surgical treatment.⁶

A key consideration of the ICI guidelines is their reliance on assessors having the knowledge, skills and qualifications to undertake this level of assessment. Whilst GPs play an important role in diagnosis and management of health-related conditions, they also rate their overall knowledge about incontinence as poor.^{65 66} Hence, as with any guideline, the ICI guidelines should be adapted to accommodate the local context of care.

Continence Resources for Aged Care

The Continence Resources for Aged Care are freely available from the Continence Foundation of Australia website.⁶⁰ They are tools that support aged care providers in conducting comprehensive and evidence-informed assessments of bladder and bowel symptoms in older people.⁶⁷ They include a continence management flow chart, a continence screening form, a three-day bladder chart, a seven-day bowel chart, a continence management, a care plan form, and a continence review form. An evaluation of the tools revealed that aged care staff found the tools helpful, clear, simple, and user-friendly. The tools also comply with international and accreditation standards. We therefore recommend the use of the *Continence Resources for Aged Care* to inform decisions about the continence care needs of older people with complex care needs.

The Continence Care Decision Support Tool

The Continence Care Decision Support Tool is an accompanying resource to the *Best Practice Model of Continence Care for Residential Aged Care*.⁵⁸ It has been designed to help aged care providers implement the previously mentioned best practice model of continence care in residential aged care. As different people have different continence care

needs, and an individual's continence care needs may change over time, the tool is designed to help users identify the most appropriate and targeted type of continence care. The decision support tool directs users to choose between preventative continence care, restorative continence care, maintenance continence care, and end-of-life continence care.

Telemonitoring and sensor devices

Continence assessments and management can be aided by telemonitoring and sensor devices that detect moisture in body worn disposable incontinence products.^{68 69} These monitor a person's voiding pattern and thereby facilitate individualised continence care planning. Digital monitoring mitigates the need to manually check a person's continence status, reducing the need to disrupt them at night. The technology may provide other information such as detection of sudden movement, abnormalities in urine and faecal odour and episodes of faecal incontinence. Studies of telemonitoring systems in residential aged care report reductions in the severity of urinary incontinence, fewer prescribed toileting visits, increase in actual toilet visits, increases in successful toileting events, and improved staff adherence to continence care plans. These technologies do not replace the need to respond to a person's need for assistance with toileting, but should be an addition to usual care.⁶⁹

Treatment and management

The ICI⁶ provide comprehensive guidelines for the assessment and management of bladder and bowel symptoms in all people, including older people with complex care. They promote active assessment and management. The ICI⁶ distinguish between conservative interventions, medical (pharmacological) interventions, and surgical interventions for the management of bladder and bowel symptoms.

Bladder symptoms

Conservative interventions

The ICI recommends several individual conservative interventions for the management of urinary incontinence⁶:

- Lifestyle interventions, i.e. maintaining hydration and preventing dehydration, avoidance of caffeine and other bladder irritants, weight loss, smoking cessation, the prevention of constipation, and physical activity.⁶
- Behavioural interventions, i.e. pelvic floor muscle exercises, and systematic voiding programs
- Environmental modifications including provision of privacy

More detailed information about the conservative management of urinary incontinence is provided in [Appendix 7](#).

For nocturia in frail older adults, the ICI also recommends a multifaceted approach, characterised by a comprehensive assessment of the underlying causes.⁶ The main aim of therapy is the reduction of nocturia episodes over a given period of time. While Wagg et al.⁶ note that there is mixed evidence about therapies for nocturia in this group, they nevertheless recommend the use of frequency volume charts to obtain objective information about the nature of the problem, and a validated questionnaire to measure the impact on the person's quality of life.

Multi-modal interventions

The ICI recommends a multi-modal approach to the prevention and management of urinary incontinence in frail older adults, characterised by a comprehensive assessment of the underlying causes, including a review of current medication which may be contributing to bowel dysfunction.⁶

In a systematic review of care interventions studies for the management of incontinence and promotion of continence in older people in care homes, Flanagan et al.⁷⁰ reported that combining physical therapy with behavioural therapies is effective in reducing rates of urinary incontinence in this setting. They recommend adapting the physical environment, providing staff with training and implementing toileting assistance programs. Similarly, Stenzelius et al.⁷¹ conducted a systematic review of conservative treatments for urinary incontinence in older and frail older people living in the community and in residential aged care homes. In the residential aged care home cohort, toileting assistance programs combined with functional exercise programs reduced urinary incontinence. The best available evidence pertaining to older people with complex care needs in the community was for multicomponent behavioural interventions including pelvic floor muscle exercises, bladder training, habit training and toileting skills training.^{71 72}

Bowel symptoms

Conservative interventions

The ICI recommends several individual conservative interventions for the management of constipation and faecal incontinence^{6 73}:

- Lifestyle interventions, i.e dietary fibre, maintaining hydration and preventing dehydration,
- Probiotics
- Abdominal massage
- Complementary therapies
- Biofeedback
- Anal sphincter exercises (including pelvic floor exercises)
- Environmental modifications including provision of privacy

Some evidence supports the use of dietary fibre, probiotic supplementation, abdominal massage, and complementary therapies for bowel management in residential aged care homes. However, a recent systematic review by Dobarrio-Sanz et al.⁷⁴ on non-pharmacological interventions to improve constipation amongst older adults in residential aged care settings reviewed evidence for several of these interventions and concluded there was a need for better controlled trials in order to conclusively recommend any.

Multi-modal interventions

Bowel management programs in residential aged care homes should prioritise the prevention and treatment of constipation and faecal impaction. Increasing residents' fluid and fibre intake, and implementing a toileting assistance program combined with an exercise program can reduce faecal incontinence in this population.⁷⁵ The ICI recommends a multi-modal approach to the prevention and management of constipation and faecal incontinence in frail older adults, characterised by a comprehensive assessment of the underlying causes, including a review of current medication which may be contributing to bowel dysfunction.⁶

We identified four well conducted studies that describe a multi-modal approach to bowel management in residential aged care homes. They include a quality improvement study conducted in a dementia specific aged care unit in Victoria, Australia.⁷⁶ The project involved reviewing suppository use to manage constipation, and implementing an education program for staff, individualised assessments, monitoring stool frequency and consistency, pear juice, oral aperients, individualised toileting and a 'local champion' nurse to oversee the program. After twelve months there was a significant reduction in suppository use in the home, from 130 to 20 per month. Feedback from staff showed support for the changes, recognition of the benefits of preserving residents' dignity and decreased odour in the unit. The authors conclude that the implementation of best practice interventions to improve bowel management in residential aged care homes requires good leadership, support from the executive, and readiness of all staff to be open to questioning current practice.

In Italy, Palese et al.⁷⁷ implemented a similar program consisting of a fibre-rich diet, adequate fluid, physical activity, toileting after meals, abdominal massage while toileting, improved comfort in residential aged care environment, and minimal use of invasive evacuation methods. They also reported a significant increase in the number of spontaneous bowel evacuations was observed, while use of laxatives and enemas and number of constipated residents all significantly reduced following the interventions.

According to the findings of a pilot quality improvement project in Veterans Affairs nursing homes in the USA⁷⁸, the Bristol Stool Scale is effective in facilitating early identification of changes in stool consistency and communication about residents at risk of abnormal bowel function. Over the study period, the proportion of residents with constipation significantly decreased from 70% in the month at baseline to 27% in the month after the practice change, representing an absolute risk reduction of 43%. Based on this study, we recommend the use of the Bristol Stool Scale to monitor bowel actions/stools of older people at risk of constipation or faecal incontinence.

Management with continence aids and incontinence products

Continence aids and incontinence products are an important management strategy for people with incontinence. We distinguish between continence aids that are designed to help people maintain continence (i.e. toileting devices, urinals etc), and incontinence products (i.e. disposable absorbent products). Best practice recommendations promote a personalised approach to the use of aids/products, whereby the aid/product suits the individual's needs, their information needs are met, and they can access financial support to obtain the aid/product where available.⁷⁹

As previously indicated, the Royal Commission into Aged Care Quality and Safety took evidence from many witnesses who described either rationing of incontinence products in residential aged care homes, or their overuse. Some family members described residents being coerced into using an incontinence products rather than being provided with assistance to maintain continence.² These practices arguably represent a violation of the older person's rights and warrant further investigation.

Decisions about the use of incontinence products should be made first and foremost on the basis of the older person's preferences, and secondly, on objective data about the frequency and severity of their incontinence. If overused or infrequently changed, disposable absorbent products can increase the risk of urinary tract infection.⁸⁰

Education for aged care employees about the rights of older people in relation to their care, including continence care, should be mandated. It should also include information about the appropriate use of continence aids and incontinence products as well as education about checking and changing incontinence products.

Although there is a wide range of incontinence pads available in Australia, which can be purchased from supermarkets, pharmacies and from on-line providers, the general public may not be aware of them, and/or their eligibility to obtain financial support to purchase them. There are several public sources of information about continence aids and incontinence products, including from the Continence Foundation of Australia.

Prevention and treatment of incontinence-associated dermatitis

Damage to the skin of the perineum, buttocks and upper thighs is a consequence of exposure to urine and faeces. Incontinence associated dermatitis is defined as skin inflammation manifested as redness with or without blistering, erosion, or loss of skin barrier function that occurs because of chronically or repeated exposure of the skin to urine or faeces.⁷⁹ There has been significant research into the recognition and prevention of incontinence associated dermatitis, primarily in adults, and some consensus documents exist⁸¹ The most recent Cochrane review published in 2016⁸² concluded that there was little

evidence, of very low to moderate quality on interventions for preventing and treating incontinence associated dermatitis in adults. However, they support the findings of the study by Palese and Carniel⁸³ that soap and water perform poorly in the prevention and treatment of incontinence associated dermatitis. Application of leave-on products (moisturisers, skin protectants, or a combination) and avoiding soap seems to be more effective than not using these products.⁸²

Based on an experimental study by Palese and Carniel⁸³, a well-constructed multi-model program consisting of an education component, the selection of appropriate incontinence products, and a skin care regime can reduce the incidence of incontinence associated dermatitis in residential aged care. The researchers compared the skin health of 63 aged care residents with Incontinence associated dermatitis pre and post the introduction of the program. After the implementation of phase one the intervention (over approximately 2 months), the incidence of incontinence associated dermatitis decreased to 31.7%. After the introduction of a specialist continence nurse who provided education and supervision, the incidence of incontinence associated dermatitis decreased further, i.e. to 3.1%. There was also a significant reduction in the number of incontinence pads used per day. Results of this study suggest that the introduction of nurse-led changes in continence care may result in clinically relevant, economic, and environmental outcomes.

Pharmacological treatment and management

Urinary incontinence

We identified two systematic reviews that evaluated the use of drug therapies for the management of urinary incontinence in residential aged care homes.^{70 84} In one such review, anticholinergics showed a small but significant positive effect on urinary leakage.⁸⁴ However, adverse events including dry mouth and constipation were common, and more research is required to evaluate the impact of anticholinergics on cognition in this population. It was therefore concluded that the use of anticholinergics for the treatment of urinary incontinence in the frail elderly is not evidence-based. To this end, the ICI caution the use of pharmacological interventions to treat bladder symptoms in frail older people due to the significant risk of adverse effects and the risk of polypharmacy.⁶

Constipation

Two systematic reviews reviewed evidence about the use of laxatives to prevent or manage constipation in residential aged care homes.^{43 85} Alsalmiy et al.⁸⁵ reviewed seven randomised controlled trials that evaluated the use of Senna (with or without fibre, i.e. *Plantago ovata*), lactulose, sodium picosulphate, docusate sodium, docusate calcium, isotonic and hypotonic polyethylene glycol and Chinese herbal medicine in this setting. Senna and lactulose were the most studied. The reviewers reported Senna was superior to or as effective as other laxatives. Generally, frequency and severity of adverse drug reactions were similar between arms of the studies, and no serious adverse outcomes were reported. The researcher also identified gaps in evidence about the use of bulk-forming laxatives, enemas, and newer laxatives, which have not yet been trialled.

Nocturia

For nocturia, the ICI⁶ recommend the late afternoon administration of diuretic medication in people who have heart failure or lower extremity venous insufficiency and the use of a very-short acting sedative hypnotic if nocturia is due to insomnia alone. They caution against the use of desmopressin in this population because of the risk of hyponatraemia.

Overactive bladder

There are several trials of pharmacological treatment for overactive bladder in frail older people living in residential aged care. The findings are inconsistent. A randomised, double-blind, placebo-controlled trial of a four-week treatment with daily oral extended-release oxybutynin 5mg or placebo was conducted by Lackner et al.⁸⁶ in aged care residents with cognitive impairment. They found that compared with baseline, the control and intervention groups achieved a significant median decrease in mean urinary incontinence episodes and urinary frequency at 4 weeks. However, there were no significant between-group differences in any urological outcome. The authors concluded that extended-release oxybutynin 5mg per day for 4 weeks in older cognitively impaired female aged care residents did not significantly reduce urinary incontinence or urinary frequency or achieve dryness. A study by Flanagan et al.⁷⁰ also reported that drug therapy for overactive bladder as an adjunct to toileting programs shows only moderate benefits.

A systematic review by Samuelsson et al.⁸⁴ found that anticholinergics have a small, but significant, effect on urinary leakage in older adults with overactive bladder. Oxybutynin, the only drug studied in the frail elderly population, had no effect on urinary incontinence or quality of life. They also found that there was a lack of adequate assessment of cognition in the included studies. Samuelsson et al. concluded that drug treatment for overactive bladder in frail older adults is not evidence based.⁸⁴

Barriers to good continence care

Evidence about barriers to good continence care is mainly drawn from studies of residential aged care. There is a lack of evidence about barriers in home care, however some barriers described may also apply to the community setting. Several overarching factors were identified that act as barriers to good continence care, including staff attitudes and knowledge, organisational and regulatory factors, and the beliefs and preferences of residents. Each factor can potentially influence continence care both in terms of current practice and with regards to implementing practice change.

Inadequate assessment and care planning

Current and international research points to a lack of assessment of incontinence and other bladder and bowel conditions among older people, particularly in residential aged care homes. An analysis of 80 randomly selected accreditation reports about the quality of continence care in Australian residential aged care homes⁸⁷ found gaps in information about the quality and outcomes of continence assessments. Similar findings were reported in the USA where data from 1,560 randomly selected residents from 815 different nursing facilities found only 54% had a care plan for the management of their urinary incontinence, and of those who had a plan, only 35% were individualised, i.e. based on an assessment of the person's individual voiding pattern.¹⁰

These findings are supported by a cross-sectional study, consisting of a questionnaire survey and interviews with care staff from five residential aged care homes in metropolitan cities of Australia.⁶⁸ The survey explored 121 care staffs' reported compliance with and perceptions of continence assessment and management and found considerable variation in practices and a lack of confidence in the protocols related to assessment and management.

Staff attitudes and knowledge

Aged care staff, including some nurses, may believe incontinence is a normal and inevitable part of the ageing process.⁸⁸⁻⁹¹ When measuring direct care staff's understanding of urinary incontinence, both Mathis et al.⁹¹ and Ehlman et al.⁸⁹ found a knowledge gap among staff with regards to their understanding of types and causes of urinary incontinence and the evidence-based treatment approaches available. Management of incontinence is often characterised by a focus on cleaning, containment and concealment. This focus is likely to be reinforced by educational support from the pad manufacturing industry. Residential aged care staff often defend practices that focus on the containment of incontinence, i.e. pad management, rightly claiming they have an obligation or duty of care to protect residents' dignity.⁹² The problem is that dignity is subjectively experienced and staff and residents may differ in their beliefs about practices that uphold a resident's dignity. Pads may protect the dignity of one resident, but represent an indignity to another.

In practice, ageist beliefs and attitudes about incontinence can influence the likelihood of staff initiating interventions that aim to prevent or actively manage bladder and/or bowel symptoms.^{88 89 91} Poor foundation knowledge about key aspects of continence care also poses a barrier to the provision of good continence care, resulting in poorer resident outcomes.⁹¹ One factor that may compound this knowledge gap is the difficulty that some staff face in keeping up to date with the latest evidence and guidelines, whether due to time constraints or a lack of experience in locating reputable information.^{88 93}

Education programs that target the knowledge and practices of aged care staff about continence care are required. However, a systematic review found mixed evidence of current education programs.⁹⁴ While uncontrolled trials reported improvements in aged care residents' and community-dwelling patients' continence status, this was not replicated in a large controlled trial. Nurses and other care workers may have limited ability to determine the type of incontinence, factors that require assessment, interpret clinical data to make a diagnosis, and identify patients who may be suitable for active interventions. While improved knowledge and attitudes are important enablers of change, continuing education alone is unlikely to produce sustained changes in practice or corporate culture.⁹⁴

Workplace constraints

Aged care staff operate in an environment that constrains their ability to deliver optimal continence care. Staff report low staffing levels and inappropriate staff skill-mix (i.e. inadequate numbers of sufficiently skilled and qualified staff) impact on continence care.^{95 96} Aged care staff face multiple competing duties and may not have sufficient access to colleagues who can assist them with certain aspects of continence care, such as the use of lifting machines.^{95 97} These constraints reduce the time staff can spend with residents, resulting in rushed care and the need to adopt efficiencies.^{4 88 95} At the heart of the problem for staff is a competing duty of care to protect residents from harm whilst upholding residents' rights to choice, autonomy and independence. In practice, staff have to choose between meeting the needs of one resident over another. Such findings align with those of a recent study that explored barriers to optimising residents' mobility in Australian residential aged care facilities. Specifically, Taylor et al.⁹⁸ stated 'goal-based tensions such as safety versus resident mobility optimisation can exist when residents require staff assistance to move' (p. 1365). Consequently, staff may opt to use incontinence aids over individualised continence care practices such as toileting assistance.^{95 99} While staff may be aware that the use of incontinence aids is not best practice for all residents, they must balance this with other competing, conflicting and changing demands.

For example, inclusive admissions practices employed by some aged care facilities result in a population of residents whose continence care needs are complex and highly diverse, presenting challenges for staff in terms of time management, costs, resident comfort, and treatment-related complications.⁹⁹ Differing expectations around a resident's care needs, from the perspective of the resident, the wider workforce or general social norms, may also influence how staff deliver continence care (for example, prioritising cleanliness and appearance over other aspects of care).⁹⁵

Staff face additional workplace constraints when it comes to implementing new continence care policies and approaches into practice. Aged care workers have reported that they lack adequate training, support and resources to implement practice changes.^{100 101} Aged care staff and managers may also have inadequate time to apply new approaches to practice, even if protected time was authorised, due to competing demands and lack of support from colleagues. Even where staff have sufficient time and knowledge to carry out changes, some may feel lack the authority to act on changes.^{88 101}

Workplace instability

The aged care setting offers an unpredictable and unstable work environment for staff, which has implications for the provision of continence care. Some facilities experience high staff

turnover or frequent staff shortages, with the result that new or agency staff often form part of the workforce.^{95 99} New and temporary staff have little time to learn residents' individual continence care needs or familiarise themselves with organisational policies on continence care, and may resort to implementing their own routines rather than residents' preferences or facility procedures.^{95 96 99} Having many different care staff looking after each resident also presents challenges for staff in terms of communicating residents' continence care needs and providing continuity of care.⁹⁶

In terms of implementing changes in continence care practice, high staff turnover at the managerial level may diminish the sustainability of continence programs or lead to abrupt changes in policies or approaches.^{95 99 101} Staff are faced with the challenge of learning new policies and frequently changing their practices to align with shifting priorities.^{99 101}

Organisational culture

Organisational culture is an overarching factor that has the ability to shape current continence care practice and determine the success or failure of new initiatives. In an analysis of organisational culture in residential aged care homes and its influence on continence care practice, Lyons et al.⁹⁹ identified professional culture and job-focused culture as dimensions that may reduce the quality of continence care. Professional culture, as opposed to a parochial culture, was typified by staff who identified with their occupational group rather than their workplace, and who commonly used the workplace as a stepping stone to another role. This created an environment of high staff turnover (as discussed previously), as well as impacting the working relationships between staff in terms shared vision and interdisciplinary cooperation during continence care. A job-focused culture was characterised as one that prioritised efficiency and productivity over the wellbeing of staff and residents, and that typically involved management-driven decisions. This approach placed restrictions on the amount of time staff spent with residents and prevented them from providing adequate continence care. Staff were also given little opportunity to input to policy changes, resulting in changes that were favourable in terms of cost but may have been unsuitable in practice.

Observations of practice at night reveals night-time continence care in some residential aged care homes is characterised by a routine of checking and changing residents' pads at fixed arbitrary intervals that may not align with residents' actual incontinence.⁹⁷ There are many contextual factors that contribute to the ritual being produced and reproduced. This finding aligns with international research revealing a lack of objectivity in decisions related to the use of incontinence products (pads) in residential aged care homes. Specifically, Omli et al.⁸⁰ collected data from 118 aged care recipients from six different residential aged care homes in Norway and found a wide range of incontinence volumes that did not correlate to pad use.

Other researchers have stressed the importance of organisational culture when implementing practice change in continence care. Hägglund and Olai⁹³ explored inhibitory factors that influenced the implementation of evidence-based practice for urinary incontinence in a residential aged care home context. In the facility in question, staff were resistant to the idea of implementing individualised toileting assistance because the current culture of practice in the facility placed a higher regard on staff's routines than resident's individual preferences. Other barriers to practice change included low receptiveness to change within the organisation, a lack of consensus among staff about the need for change, and the fact that the proposed changes were not valued as evidence-based practice.

Concerns also emerged about the costs associated with implementing practice change. Each of these barriers are suggestive of a workplace culture that is change-resistant, which has implications for the organisation's potential to improve continence care practice.

Regulatory context

The broader regulatory context in which aged care staff operate presents further barriers to good continence care. One Australian study described the unintended impact of the aged care quality framework and funding model on the provision of continence care.¹⁰² Staff in this study reported being fearful of non-compliance with regulation, leading them to adjust their work practices accordingly. Staff adopted a risk-averse approach to care, such as implementing a range of measures to minimise fall risk, but in doing so often restricted residents' independence and thereby contributed to their incontinence. Another study by the same author highlighted that this approach is particularly common in night time continence care, whereby staff encouraged the use of incontinence aids as a safer alternative to residents walking to the toilet overnight.⁹⁷ This practice, however, lead to further complications as staff operated under regulatory pressure to minimise the incidence of pressure injuries caused by soiled incontinence aids. Staff were compelled to check residents' incontinence aids at frequent intervals overnight, which was disruptive to residents and reduced the quality of their sleep. A further influence of the Australian regulatory context appears to be the incentive of a higher funding subsidy for facilities with higher rates of incontinence. The Aged Care Funding Instrument model provides a high incentive for staff to identify residents with severe incontinence, but little incentive to prevent or treat it.¹⁰²

Resident beliefs and preferences

There is also evidence in the literature that residents' beliefs and preferences may influence whether they are able to receive continence care that could be considered optimal. In a systematic review, Roe et al.¹⁰³ reported that some residents feared alienating staff due to the additional time required for toileting assistance, and therefore accepted the use of incontinence aids as a less-burdensome alternative even if their preference was for toileting. Other residents may be reluctant to ask for any assistance to cope with incontinence, whether due to embarrassment or the belief among residents and/or family members that incontinence is a normal part of ageing.⁹⁰ This may lead to residents attempting to self-manage their incontinence, which has implications for resident safety (such as increased falls risk).⁹⁰ General resident preferences about continence care may also be considered a barrier to implementing new continence care practices. When attempting to implement evidence-based management in a residential aged care home, Hägglund and Olai⁹³ found that several residents were resistant to the idea of individualised toileting assistance because they felt incontinence aids were safer or simply preferred not to use the toilet.

Workforce considerations

Training the aged care workforce

All aged care employees should be equipped with the depth and breadth of knowledge needed to prevent and actively manage incontinence. Training programs should include information about the care of older people with bladder and bowel symptoms, including how to accurately identify the frequency and severity of urinary incontinence.⁹⁴ It is also important that any training is tailored to employees' qualifications, role, and the scope of their practice.⁹¹

Training aged care staff to support the continence care needs of people living with dementia has been shown to improve assessments, reduce urinary incontinence, increase toileting assistance and improve residents' quality of life.^{104 105} The training should include information about person-centred approaches to continence care for people with cognitive decline, such as how to approach and interview residents with dementia, and how to use the information to create person-centred continence care plans.

Several online education courses about incontinence and its management are available from the Continence Foundation of Australia. These address an important gap. However, there is also a need to improve the quality and quantity of education about continence care in undergraduate programs for nurses and in the vocational education training sector. The aged care sector currently relies on education and support about incontinence and its management from the manufacturers of incontinence products.

Leadership

Several studies have highlighted the importance of leadership in ensuring quality and safety in the care of older people with complex care needs. Administrators and leaders can support positive attitudes about urinary incontinence at an organisational level by providing educational resources for staff, supporting the development of procedures to assess and treat urinary incontinence, and creating a culture where residents have a voice to discuss urinary incontinence.⁹¹ Older people and their families should be involved with decisions regarding their preferred care, goals, management, and outcomes for continence care.¹⁰⁶ Leaders can play a key role in ensuring the rights of older people to direct their care, including their continence care. We found only one study that evaluated the effects of involving residents in decision-making about their continence care in a residential aged care home.¹⁰⁵

Registered nurses with advanced and specialist knowledge and skills in continence care, such as Nurse Practitioners, Advanced Practice Nurses and Continence Nurse Specialists can provide mentorship and leadership to generalist nurses and careworkers who care for people with complex care needs. A New Zealand study found care plans developed by specialist continence nurses reduced the severity of aged care residents' urinary incontinence in the short term, improved their quality of life, and was associated with a modest additional cost.¹⁰⁷ A systematic review by Drennan et al.¹⁰⁸ described a tailored 8 week intervention developed by a Nurse Practitioner for family carers to implement. It consisted of promoted voiding and was combined with education. The researchers reported a reduction in the use of ineffective strategies to manage incontinence and in the frequency of urinary incontinence in the short-term.

Additional considerations for people in priority groups

Consistent with the Aged Care Diversity Framework¹⁰⁹, priority groups who may have additional continence care needs related to culture, diversity, identity, life experience, access and equity include:

- First Nations older people
- Older people from Culturally and/or Linguistically Diverse (CALD) backgrounds
- Older people who identify as Lesbian, Gay, Bisexual, Transgender and Gender Diverse, and/or Intersex (LGBTI)

Additionally, the continence care needs older people with a diagnosis of dementia are also addressed.

First Nations Older People

There is limited research about the rates of incontinence and other bladder and/or bowel symptoms in First Nations older people. A study in the community setting revealed that the prevalence and incidence of urinary incontinence, especially urge and stress incontinence, are higher in First Nations older people than they are in the broader population.¹¹⁰ The rates of faecal incontinence and other types of incontinence among First Nations older people in the community are unknown, and there is no current research about the prevalence or incidence of any types of incontinence among First Nations older people who live in residential aged care.

Peer-reviewed research about the needs and experiences of older First Nations people who receive continence care in the community or in residential aged care is also lacking. According to the best available evidence, there are a number of cultural considerations that are important to understand in order to provide person-centred continence care for First Nations older people in either context.

Firstly, in First Nations culture, 'Men's Business' and 'Women's Business' are important cultural protocols. They are concerned with what can and should be discussed or undertaken by people of particular genders, which includes discussion of sensitive and gender-specific information such as continence.¹¹¹⁻¹¹³ For First Nations older people, it may be considered highly inappropriate to discuss continence with or receive continence care from a person who is of another gender.^{111 114} First Nations older people should be asked about their preferences with regards to this, and their preferences should be documented for continuity of care.

Secondly, in many First Nations communities, the concept of 'shame' is very important. According to guidelines from Mental Health First Aid Australia¹¹⁵, shame is a cultural construct that is not easily defined and bears little or no resemblance to Western ideas of shame. Shame can occur when a person is singled out for any purpose (i.e. both positively and negatively), or in a situation that directly targets a person's dignity. It can result from embarrassment, a lack of respect, or a breach of accepted First Nations cultural norms and/or taboos, and can be overwhelming and disempowering. Discussions of body functions (for example, continence and bladder and/or bowel symptoms) may be a 'shame issue' (i.e. can cause a person to feel shame) for some First Nations people.^{111 114} They may attempt to conceal their own incontinence from others, or to avoid discussions about continence. Shame can also manifest as a reluctance to expose genitals or other body areas to other people, especially to non-Indigenous people. Aged care staff should be mindful of this when

discussing continence with a First Nations older people, or during instances of continence care. Staff should seek permission to discuss continence, and ask the person whether they would prefer to discuss their needs in the presence of others or discuss them privately.¹¹¹

Lastly, there is strong evidence that historical events resulting from colonisation (e.g. land dispossession, forcible removal practices, and oppressive legislative policies) continue to have a substantial impact on First Nations people in the form of complex trauma.^{116 117} A significant example of this is the forcible removal of First Nations children from their families in Australia between 1910 and the 1970s. First Nations people who experienced forcible removal are known as the Stolen Generations. According to the Healing Foundation's guide to Providing Effective Aged Care Services to Stolen Generations Survivors¹¹⁸ continence care and other forms of intimate care that involve touch (such as showering) may be a trigger for Stolen Generations survivors. It can remind a person of the abuse or lack of control they experienced as a child. Not all First Nations people are Stolen Generations survivors, so it is important that staff talk to the person about their individual needs and employ trauma-informed care practices where required.¹¹⁷ As a general rule, staff should always seek permission before providing continence care.¹¹¹ If a person is not comfortable receiving continence care, they should be asked about what arrangements could be put in place to help them feel comfortable. An Aboriginal Health Worker may be able to provide support and guidance about this.

In order to facilitate continence care for First Nations older people that aligns with these considerations, it is extremely important that all staff who work with First Nations older people receive cultural competency training.¹⁰⁹ First Nations older people may benefit from the support and presence of trained Aboriginal Health Workers and/or First Nations elders.¹¹¹ Tailored written and pictorial resources addressing incontinence for First Nations people are also available and should be promoted and used in practice.¹¹⁹ Lastly, where a First Nations older person speaks a language other than English, trained interpreters should be used to ensure clear and accurate communication of information between both parties.¹¹¹

Culturally and Linguistically Diverse (CALD) Older People

The rates of incontinence and other bladder and/or bowel symptoms among members of CALD communities in Australia, both in the community and in the residential aged care setting, are unknown. There is little evidence about the specific continence care needs of CALD older people who receive aged care in the community or in the residential aged care setting. However, the best available evidence about members of CALD communities more broadly may be used as a basis for providing good continence care in the aged care setting.

There is significant variability among the CALD community, and as such it is important to understand the continence care needs and preferences of each individual resident. A person's specific needs and preferences can be influenced not only by their ethnicity, country of birth, language and religion, but also by numerous other cultural norms, beliefs and practices.

Research has shown that incontinence may carry a strong stigma among members of CALD communities, especially since incontinence can be perceived as being the result of individual behaviours (such as having poor bathroom hygiene practices).¹²⁰ Other evidence suggests that members of CALD communities may perceive incontinence as untreatable and/or as a normal part of ageing.¹²¹ These factors, as well as other barriers such as inability to access to culturally appropriate healthcare, can lead to reluctance to seek support with managing incontinence symptoms.^{120 121}

Other cultural considerations may also apply to an older person from a CALD community depending on their cultural or religious background and lived experiences. For example, a person may consider it inappropriate to speak about continence with or to receive continence care from someone who is of another gender.¹²² In terms of lived experience, a CALD older person, especially someone who is a refugee or asylum seeker, may have experienced significant traumatic events in their lifetime.¹⁰⁹ War, financial and economic hardship, dispossession, racism, discrimination, institutional abuse, sexual violence, torture and many other traumas can form part of a CALD person's lived experience. Continence care and other forms of intimate care that involve touch (such as showering) can be a trigger for someone who has experienced past trauma, especially traumas that involve physical abuse and/or a lack of control over one's autonomy. Not all CALD people have the same lived experience, so it is important that providers talk to each individual about their needs and employ trauma-informed care practices where required.¹⁰⁹

In general, differences in language can be a significant barrier to effective communication between care providers and older people from a CALD background. In line with the Aged Care Diversity Framework¹⁰⁹, it is important that all older people have access to simple, understandable information about continence care (for example, education about incontinence and the treatment and management options available) and are supported to engage in discussions about their continence care. Therefore, where language barriers exist, strategies should be used to ensure that CALD older people are able to access information and engage in discussions about care. This may include the use of translating and interpreting services¹⁰⁹, as well as accessing and promoting culturally specific resources about continence care¹²³. All staff who work with older people from CALD backgrounds should also undergo cultural competency training.¹⁰⁹

Lastly, residential aged care providers should also be aware of how the physical environment within the home can create a safe and inclusive space for CALD residents. With regards to continence care, providers should ensure the use of clear signage to indicate the location of toilets in the home, including signage in languages that reflect the linguistic demographic of the resident population.¹⁰⁹ This can enhance residents' independence with toileting, and improve navigation for residents with cognitive impairment.

Older People who identify as Lesbian, Gay, Bisexual, Transgender and Gender Diverse, and/or Intersex (LGBTI)

Prevalence of incontinence and other bladder and/or bowel symptoms among older people who identify as LGBTI is not known. Research in younger LGBTI people suggests that some types of urinary incontinence are more common in transgender people who have undergone gender affirmation surgery. These include post-void dribbling and urinary fistulae, which may require specialised management.¹²⁴ Bladder dysfunction, including overactive bladder and stress or urge incontinence, may also develop following gender affirmation surgery.¹²⁴ A study of the bladder health experiences of 36 people from sexual and gender minorities reported that most 69% of participants experienced lower urinary tract symptoms, including leaking urine (22.2%), leaking in connection to sudden need to rush to urinate (13.9%), and in connection with laughing sneezing or coughing (13.9%).¹²⁵ Nearly one in five participants reported leaking urine after voiding. All transgender men involved in the study reported lower urinary tract symptoms.

No research was found that addressed the specific continence care needs of people who identify as LGBTI. Aged care staff should be guided by the general principles of inclusive and respectful care for people who identify as LGBTI, as outlined in the Aged Care Diversity

Framework.¹⁰⁹ This includes providing appropriate training for all staff who work with LGBTI older people. Staff should also take into consideration the fact that LGBTI older people's needs may be influenced by past and ongoing experiences of trauma and discrimination.¹⁰⁹ Due to the intimate and personal nature of continence care, it has the potential to be particularly threatening for a resident who identifies as LGBTI, especially if they are intersex or transgender and/or they have experienced sexual assault.¹²⁶ Trauma-informed care principles should therefore be employed where required.

Older People with Dementia

In Australian residential aged care homes, 52% of residents have a diagnosis of dementia.¹²⁷ Seventy percent of residents with dementia are incontinent of urine 3-4 times a day, while 46% are incontinent of faeces four times a week or more.¹²⁸ Ninety percent of aged care residents with dementia require assistance to manage incontinence.¹²⁷ In the community setting, data from a longitudinal study in the UK suggests that 16% of people with dementia have urinary incontinence (compared with 11% in people without dementia), while 5% of people with dementia have faecal incontinence (compared with 2% in people without dementia).¹²⁹

In this rapid review, four studies were located that focused on interventions for older people with dementia.^{56 76 88 104} The findings related to those interventions are described in the previous section of this report. One additional study described the relationship between the type of care received by community-dwelling older people with dementia and impaired toileting in the USA and risk of adverse consequences related to toileting.¹³⁰ The authors found that two thirds of participants received assistance with toileting. Those who did receive assistance with toileting were significantly less likely to have experienced adverse events related to toileting (i.e. accidentally wetting or soiling themselves in the past month) compared to those who did not receive assistance with toileting. In contrast, intensity of caregiving (i.e. number of hours per week of caregiving and number of caregivers) was not shown to be related to risk of adverse toileting events. Therefore, the specific type of care received by people with dementia may be of greater importance for meeting their continence care needs than the intensity of the caregiving itself.

Based on other available evidence, there are specific considerations in terms of training and skills for staff who provide continence care for older people with dementia. In an ethnographic study conducted in a day care centre for people with dementias, Hutchinson et al.¹³¹ described the management of incontinence in this cohort. With regards to determining when a person needed to use the toilet, carers described the need to look for toileting cues. While these cues were sometimes verbal, they could also be non-verbal and behavioural. For example, staff looked at a person's eyes, body language and movements, as well as signs of the person becoming agitated or irritable. Assisting a person to use the toilet was not, however, always without challenges. Staff described that toileting could sometimes lead to "catastrophic" events, whereby the person with dementia showed significant distress, resistance to toileting, and sometimes physical or verbal aggression towards staff. This experience aligns with contemporary Australian data showing that 80% of people with dementia in residential aged care experience behavioural and psychological symptoms.¹²⁷ Methods staff use in an attempt to mitigate adverse events included scheduled toileting, developing an understanding of each older person's preferences and symptoms, and a number of other strategies that staff developed through trial-and-error. This research demonstrates that further consideration needs to be given to equipping aged care staff with

specific knowledge and skills to monitor, interpret and concurrently manage behavioural and psychological symptoms of dementia during continence care interactions.

Quality and safety measurement

Quality indicators and outcome measures represent an important method to measure, monitor, compare and improve the quality of care within organisations. In 2019, Australia's National Aged Care Mandatory Quality Indicator Program (Quality Indicator Program) became compulsory for residential aged care services. The Quality Indicator Program required residential aged care providers to report data quarterly against three quality indicators of care: (i) Pressure injuries; (ii) Use of physical restraint, and (iii) Unplanned weight loss. In 2021, the Quality Indicator Program was extended to include medication management and falls and major injuries. In 2021, the Australian Government announced a further expansion of the Quality Indicator Program in:

- Residential aged care with additional quality indicators in four critical areas, as well as consumer experience and quality of life measures
- In-home aged care with the introduction of quality indicators in up to five critical areas, as well as consumer experience and quality of life measures

The Australian Government is currently trialling the addition of IAD as a proxy for a quality indicator for continence. If IAD is included as a mandatory indicator, then we can assume it will incentivise practices to prevent, minimise and manage IAD. The causes of IAD are multifactorial and include the following risk factors:

- Skin exposure to faecal incontinence
- Skin exposure to urinary incontinence
- Skin exposure to dual incontinence
- A lack of preventive interventions for IAD
- Greater functional limitations in activities of daily living,
- More perfusion problems,
- Presence of a perineal pressure injury ^{20, 21, 132, 133}

It should be noted that the odds of developing IAD among residents receiving IAD prevention are about half (46%) the odds among those not receiving prevention (OR = 0.46; 95% CI: 0.33–0.65) ²¹.

Ideally, using IAD as a quality indicator would incentivise staff to implement a skin care regime, change residents' incontinence products on a more regular basis and optimise residents' mobility and function. However, it should be noted that whilst all residents with IAD will be incontinent of urine and/or faeces, not all residents with incontinence develop IAD. In other words, the prevalence of IAD in residential aged care home is relatively low, i.e. between 3.1% and 6.5% ^{21, 133} vis a vis the prevalence of urinary and/or faecal incontinence. Further research is required to determine the effects of using IAD as a quality indicator to promote best practice continence care.

International efforts to evaluate the quality of continence care are considerably more established than in Australia, with many third-generation quality indicators being systematically used to enhance the safety and quality of care provided in long-term care settings. They include:

- The Assessing Care of Vulnerable Elders (ACOVE) Quality Indicator for urinary incontinence¹³⁴
- Key performance indicators for individuals who require a toileting and containment strategy¹³⁵
- The Resident Assessment Instrument-Minimum Data Set 2.0 Quality Indicator
- The European Centre for Social Welfare Policy and Research Results-Oriented Indicators¹³⁶
- The ICHOM core set of outcome measures for OAB treatment¹³⁷

Arguably, the development of measures to monitor improvements in continence care in older people receiving aged care services in Australia could apply the learnings from this international research. It should also consider the outcome measures reviewed by Sansoni et al.¹³⁸ for the assessment of urinary and faecal incontinence. Funded under the Australian National Continence Management Strategy, Sansoni et al.¹³⁸ examined all instruments and indicators that were available at the time that were designed to assess patients with urinary and/or faecal. The researchers concluded that the best measure to evaluate urinary incontinence was the Revised Urinary Incontinence Scale (RUIS) and the best measure for faecal incontinence was the Wexner Faecal Continence Grading System. These two scales are used as follow up tools when there are indicators during the National Screening and Assessment process that indicate further assessment is required.

An important consideration in relation to the abovementioned measures is their contextual appropriateness for use in older adults receiving aged care services in residential aged care homes and in the community. Many scales are designed for clinical outpatient care settings rather than for use in long-term care settings.

We suggest further consideration be given to the use of quality indicators that are informed by older people and carers. For example, the ICIQ-Cog developed by Volz-Sidiropoulou et al.¹³⁹ could be used to measure the wellbeing of family carers caring for a person with a diagnosis of dementia. It consists of two scales: a 12-item scale measuring the care needs of older people with incontinence and cognitive impairment who are unable to report on their own health state (ICIQ-Cog-P) and a four-item scale assessing efforts associated with care of people with incontinence and cognitive impairment residing in residential aged care homes from the perspective of caregiver (ICIQ-Cog-C). Incontinence-related bother is measured by observing corresponding behavioural (emotional, motor, physiological) characteristics of clinical and care-giving relevance. This tool is reliable and valid for use in residential aged care homes and for carers.

Similarly, we suggest that further consideration be given to the timeliness of responses to requests for assistance to the toilet to evaluate the quality of continence care in institutional settings such as hospitals and long-term care homes. A large study that examined factors associated with the quality of care from 1,560 nursing home residents from 815 homes in the USA found residents' satisfaction with the home was associated with the timeliness of staffs' responses to their calls for help with voiding.¹⁰

Finally, given the emphasis on the dignity of older people with complex care needs, there is a need to develop and validate a measure of continence care that protects a person's dignity. This measure could in turn quantify violations to the dignity of people who are care-dependent and assist caregivers and healthcare professionals to challenge practices that violate dignity.

Further information about quality measures for continence care is provided in [Appendix 8](#).

4. Conclusion

This report provides evidence about the prevalence, risks and management urinary incontinence, faecal incontinence, dual incontinence, nocturia, constipation and overactive bladder in older people with complex care needs. The main focus of this report is evidence-informed information about best practice continence care interventions and strategies required to optimise the health and well-being of older people receiving aged care services in the community and in residential aged care homes. It also articulates the quality and safety issues associated with these bladder and/or bowel symptoms in this population and addresses the question of what constitutes best practice 'continence care'. The barriers to 'good continence care' are described, as well as measures to monitor improvements in the quality of continence care in this population. The report concludes with a set of best practice recommendations for safe, quality continence care for these older Australians.

This rapid review highlighted the under recognition of bladder and bowel symptoms in older people with complex care needs and the lack of recognition of the personal, social and financial impacts. Whilst there is a large body of evidence to support recommendations pertaining to continence care in residential aged care homes, there is a paucity of data about the continence care need of older people who access aged care services in the community. This makes it difficult to make recommendations that apply to this setting and to evaluate the safety and quality of care.

Ageism continues to pose a significant barrier to people seeking and obtaining help. Incontinence is widely viewed as an intractable condition of old age. The review draws attention to a lack of knowledge among healthcare professionals and aged care staff about incontinence and other bladder and bowel symptoms. Many older people with complex care needs have bladder and bowel symptoms that could improve or resolve if they had access to appropriate care and services.

There is strong evidence of the interrelationship between bladder and bowel symptoms and physical and cognitive functioning in frail older people. This has important implications and highlights the need for programs to maintain or improve older peoples' mobility and functional skills. It also draws attention to the need to support people who are cognitively impaired and their carers – addressing not only the physical aspects, but also the psychological dimensions of bodily loss, stigma and dependence.

Leaders could play a greater role in promoting quality and safety in continence care, particularly in residential aged care homes. There is considerable scope to employ Registered nurses with advanced and specialist knowledge and skills in continence care, such as Nurse Practitioners, Advanced Practice Nurses and Continence Nurse Specialists to provide mentorship and leadership to generalist nurses and careworkers who care for people with complex care needs. Given the relationship between functional decline and incontinence, there is also a greater role for physiotherapists and exercise physiologists.

We found evidence that a multi-modal approach to continence care is effective in residential aged care homes, particularly when led by Registered nurses with advanced and specialist knowledge and skills in continence care. Whilst an older person's continence care should be personalised, residential aged care providers should have:

- Bladder management programs that prioritise the prevention and treatment of bladder symptoms such as urinary incontinence, nocturia and overactive bladder;
- Bowel management programs that prioritise the prevention and treatment of bowel symptoms such as faecal incontinence, constipation and faecal impaction,

- Skin care programs that prioritise the prevention and treatment of incontinence-associated dermatitis.

Although the review examined evidence for individual interventions for each of the six bladder/bowel symptoms, the effectiveness of interventions is stronger when they are combined with other measures or strategies

We appreciate that the question of what constitutes ‘good care’ and ‘good continence care’ is contested and differs from person to person. The evidence we located and reported is largely from an international consultation on incontinence and reflects the goal of diagnosis and cure, or symptom improvement. Treatment or symptom improvement will be important for many older people with complex care needs. However, just as important is their access to basic everyday assistance to maintain optimal continence or to manage episodes of incontinence in a way that maintains their dignity and humanity. Hence, we have attempted to integrate evidence from the medical paradigm with research about older peoples’ experiences and from qualitative research about the context of continence caregiving.

5. Recommendations

Based on the evidence reviewed, we make several recommendations to promote best practice continence care for older people with complex care needs. They are grouped according to whether they are assessment recommendations or management recommendations. Table 2 lists the best practice recommendations for continence care for older people with complex care needs. They are further grouped according to the category of recommendation, and include an overarching recommendation, followed by specific recommendations and resources.

Table 2. Best practice recommendations for continence care for older people with complex care needs

Category	Overarching recommendations	Specific recommendation and resources
Assessment	Identify incontinence and other bladder and bowel symptoms in the older person	Consider using the Continence Resources for Aged Care to inform decisions about the continence care needs of older people with complex care need.
		Consider augmenting continence assessments practices with mobile, wireless telemonitoring to detect moisture in disposable absorbent incontinence products.
		Consider using the Continence Care Decision Support Tool to choose between preventative continence care, restorative continence care, maintenance continence care, and end-of-life continence care.
		Residential aged care providers should have a bladder management program that prioritises the prevention and treatment of bladder symptoms such as urinary incontinence and nocturia.
		Residential aged care providers should have a bowel management program that prioritises the prevention and treatment of bowel symptoms such as faecal incontinence, constipation and faecal impaction.
		Consider using the Bristol Stool Scale to support early identification of abnormal bowel function in older people at risk of constipation or faecal incontinence in residential aged care homes.
	Identify, document and communicate the older person's continence care values, goals and preferences through a supported shared decision making process.	Engage in shared decision-making with the older person and their nominated care partner to identify their goals, preferences and values for continence care. This aligns with Principle 1 of the Best Practice Model of Continence Care in Residential Aged Care which promotes person-centred through supported shared decision-making.
	Consider the needs of care partners in planning care (person/s identified by the aged care resident, or their representative, with whom they have a close and continuing relationship, such as a family member or close friend)	Consider using the ICIQ-Cog-C to assess the impact of caring for a person who is cognitively impaired.

Clinical pathways, guidelines and models of care for continence care	Adopt evidence-informed clinical pathways, guidelines and models of care to guide continence care	Consider using the Comprehensive Module International Service Specification for continence care to guide service design to meet the continence care needs of older people with complex care needs in the community. Consider using the Best Practice Model of Continence Care in Residential Aged Care to guide service design to meet the continence care needs of older people with complex care needs in residential aged care homes.
Organisational interventions	Ensure the workforce has the knowledge and skills to care for an older person with continence care needs	Education and training programs for the aged care workforce should include information about the care of older people with bladder and bowel symptoms, including how to accurately identify the frequency and severity of urinary incontinence.
		All aged care employees should be equipped with the depth and breadth of knowledge needed to prevent and actively manage bladder and bowel symptoms and incontinence-associated dermatitis.
		Education on continence care should differ according to the aged care employees' qualifications, role and scope of practice.
		Education programs for residential aged care staff should include information about the specific continence care needs of people with a diagnosis of dementia. This includes education about person-centred approaches to continence care for people with cognitive decline. This includes training about how to approach and interview the older person using a person-centred approach (elicit narratives) and how to use the information to create person-centred continence care plans.
		Education programs about continence care should challenge ageist attitudes.
	Access advanced and specialist support to ensure quality and safety in continence care	Nurse-led changes in continence care can produce clinically relevant clinical, economic, and environmental outcomes. Registered nurses with advanced and specialist knowledge and skills in continence care, such as Nurse Practitioners, Advanced Practice Nurses and Continence Nurse Specialists should be employed to provide mentorship and leadership to generalist nurses and aged care employees who care for people with complex care needs.

		The implementation of best practice interventions to improve bladder and bowel management in residential aged care homes requires good leadership, support from the executive, and staff willingness to question current practice.
Multi-modal interventions	Adopt a multi-modal approach to the care of older people with bladder and bowel symptoms	A singular focus on interventions for bladder or bowel symptoms in organisational care settings, is unlikely to improve the quality of care and outcomes. Therefore, for residential aged care homes, a multi-modal approach to continence care should be adopted. A multi-modal approach to the management of bladder and bowel symptoms in frail older adults is characterised by a comprehensive assessment of the underlying causes, including a review of current medication which may be contributing to symptoms. The strongest evidence for reducing urinary incontinence and increasing quality of life in frail older adults in the community is for multi-modal behavioural interventions including pelvic floor muscle exercises, prompted voiding, toileting assistance and bladder training.
Lifestyle interventions	Implement lifestyle interventions as first line therapy for bladder and bowel symptoms	Lifestyle interventions should be employed as first line therapies based on a careful appraisal of the person's continence assessment and general health status. These include modifications in fluid intake, exercise, avoidance of caffeine and other bladder irritants, weight loss, smoking cessation, constipation prevention, and physical activity.
Exercise programs	Ensure the older person has the support they need to maintain or improve their mobility and functional skills	Improving a frail older person's mobility and ability to complete activities of daily living and general physical capacity can reduce urinary incontinence episodes. Exercise programs should be tailored, goal-oriented and accommodate residents' functional decline. It is important to work with the individual older person to determine their personal goals as they may be maintenance of functional status or a delayed decline rather than improvement.
Toileting assistance programs	Ensure the older person has the support they need to use the toilet in a timely manner	Toileting assistance programs are an important component of continence care for people who are care-dependent. Prompted voiding (with and without exercise or mobility training) is effective in reducing urinary incontinence, improving request for toileting assistance and appropriate toileting in the short term. To optimise aged care employees' adherence to a toileting assistance program, it may be necessary to provide a structured education programme about the value

		older people place on continence, and to provide ongoing clinical support, and supervisory feedback
An enabling physical environment	Ensure the physical environment optimises the older person's ability to maintain continence	Adaptations to the physical environment should be implemented along with toileting assistance programs
Continence aids and incontinence products	Ensure the appropriate use of continence aids and incontinence products	Best practice recommendations promote a personalised approach to the use of aids/products, whereby the aid/product suits the individual's needs, their information needs are met, and they can access financial support to obtain the aid/product where available.
	Ensure the older person has the support they need to change incontinence products in a timely manner	In residential aged care homes, the timeliness of staff responses to residents' request for assistance with continence care is associated with residents' overall satisfaction with the home.
Interventions to prevent and manage IAD	Implement a skin care program for the prevention and management program of IAD	A well-constructed program that includes an education component, the selection of incontinence products that are known to reduce the incidence of IAD and a skin care regime can reduce the incidence of IAD in aged care residents. The advice of a specialist continence nurse (education of staff and supervision of the program) can significantly reduce the incidence of IAD.
		pH cleansers are better than soap and water in maintaining skin integrity. Barrier creams should be applied to prevent IAD, zinc-based creams should be applied when IAD is observed.
Pharmacological interventions	Avoid the use of drugs for bladder symptoms such as urinary incontinence, nocturia and OAB in frail older adults	ICI caution the use of pharmacological interventions to treat bladder symptoms in frail older people due to the significant risk of adverse effects and the risk of polypharmacy.
	Ensure the appropriate use of laxatives for the prevention and management of constipation	Senna is superior to, or as effective as other laxatives for constipation

6. Appendices

Appendix 1. Prevalence and risk factors

Prevalence

Incontinence is a substantial concern for older Australians, with the majority (61%) of people experiencing urinary incontinence being 65 years and older. The most recent National Health Survey (2020-2021) estimates that 220,000 Australians aged 65 years and older are incontinent of urine (approximately 0.9% of all Australians, or 5.6% of all Australians aged 65 years and older).⁷ This number likely underestimates the prevalence of the condition in the community as the survey only included responses where incontinence was both current at the time of the survey and likely to last for at least a further six months. The proportion of aged care consumers with incontinence is much higher, with an estimated 50% to 70% of residential aged care consumers.

Incontinence also affects a substantially higher proportion of people in aged care, whether in-home or in a residential aged care setting. Data on the point prevalence of incontinence in people currently receiving aged care in Australia has not been publicly released. Estimations can be made by examining historic and other national and international data, though comparisons between studies can be difficult as these various data sources often define incontinence differently. The most prolific research is in the residential aged care setting, with fewer studies conducted for in-home aged care, as well as insufficient data on conditions such as nocturia and overactive bladder.

Urinary Incontinence in Residential Aged Care

Recent ACFI data from 2020-2021¹⁴⁰ suggests that 13.4% of permanent residents in aged care have stress / urinary incontinence and 14.7% have unspecified urinary incontinence as one of the three most significant medical conditions impacting on their care needs. This data also shows 86% of residents have at least either two episodes per day of urinary incontinence or passed urine during scheduled toileting and were incontinent prior to the implementation of scheduled toileting. It should be noted that there is some ambiguity in the accuracy of the ACFI data as is unclear if it pertains to the frequency of passing urine (i.e. voiding) or the frequency of urinary incontinence.

There is some variation in the prevalence rates of other comparable countries. This reflects not only differences in demographics and how aged care systems are operationalised internationally, but also differences in how the data has been collected and how incontinence has been defined. Despite this, a reasonable estimate for the prevalence of urinary incontinence in residential aged care settings ranges from about 50% to 70%⁹⁻¹². For example, the prevalence of urinary incontinence was reported as 68.8% in 1290 residents of Austrian aged care facilities⁹; when urinary incontinence was defined as at least two notable episodes in the past two weeks, a random sample of 1558 residents from 815 care homes in the USA had a prevalence of urinary incontinence of 48.4%¹⁰; when urinary incontinence was defined as the presence of incontinence at least once a week, prevalence was 69.7% in a sample of 1804 residents in German nursing homes¹¹; the Minimum Data Set (MDS) in 175,000 residents living in aged care in the USA showed a prevalence of urinary incontinence at 64.7%; and in 95,911 newly admitted nursing home residents in the USA, 65% had pre-existing urinary incontinence¹².

Urinary Incontinence in in-home Care

Compared with residential aged care research, there is a substantial gap in prevalence studies in home care. Recent Australian data is limited and incomplete and so prevalence rates cannot be determined accurately.

International data on the prevalence of urinary incontinence in home care is variable. A random sample of 923 home care patients from 102 home care services in Germany showed a prevalence of urinary incontinence of 65.5%, when using the ICIQ-urinary incontinence form (ICIQ-SF) scale.¹³ In New Zealand, over 32,000 clients were assessed for home care using the interRAI-HC, with the prevalence of urinary incontinence (defined as some form of leakage) at 36.4%.¹⁴

Faecal Incontinence in residential aged care

A systematic review by Musa et al.⁴³ summarised 18 international studies on the prevalence of faecal incontinence in aged care facilities. For isolated faecal incontinence, the prevalence was estimated at 3.5% (with studies ranging from 1% to 26%). For all faecal incontinence (isolated or double incontinence), the prevalence was estimated at 42.8% (range 10.5 to 78%). The systematic review also estimated the prevalence of double incontinence in aged care facilities as 32.1% (range 23.3% to 75%).

Australian data about faecal incontinence has not been summarised in a systematic review. But a narrative review by Guinane et al.¹⁴¹ of only Australian and New Zealand studies on faecal incontinence in older adults identified one study in an aged care setting, with a prevalence of 14.1% for faecal incontinence in women in aged care facilities. 2020-2021 ACFI data shows that 4.5% of permanent residents in aged care had bowel / faecal incontinence listed as one of their three most significant medical conditions impacting their care needs, and 55.6% of these residents were either incontinent of faeces at least once a week, or were on scheduled toileting due to incontinence.¹³⁸ As with the ACFI data on urinary incontinence; it should be noted that it is unclear if it pertains to the frequency of bowel actions or the frequency of faecal incontinence.

Faecal incontinence in in-home care

Recent data on faecal incontinence in in-home care is incomplete. Internationally, a study from New Zealand used home care assessment data (interRAI-HC) of over 41,000 people to show the prevalence of faecal incontinence in the home setting at 17.3% overall, with incontinence operationalized as when a client is at least infrequently incontinent.⁴²

Constipation in residential aged care

Australian studies on constipation prevalence in aged care are lacking. And only two international studies were recent and relevant, both conducted in residential aged care settings. A Swedish study of 2,939 residents living in institutional geriatric settings showed a prevalence of 67%.³⁵ However, a Norwegian study conducted in ten nursing homes showed that of the 261 residents participating in the study, 23.4% had constipation.³⁶

Other bladder and bowel conditions in residential aged care

There is a paucity of data on the prevalence of other related conditions. A study on nocturnal polyuria in a Belgium aged care facility showed that 84% had this symptom, defined as nocturnal urine volume exceeding 33% of 24-hour urine production.¹⁴² However, the sample size was very small (n=46) and likely non-representative, as less than a third of the residents in the facility participated in the study. A larger study was conducted on overactive bladder in residents living in aged care facilities in the USA.¹⁴³ In a sample of over 170,000 residents, the prevalence of overactive bladder was 1.01%.

There were no studies conducted for in-home settings that were relevant and recent. The prevalence of these conditions for in-home care is unknown and further research is needed.

Risk factors

There are multiple risk factors that have been identified in contributing to the development or exacerbation of bowel and bladder symptoms in people receiving aged care. A considerable number of papers have identified an association between incontinence and a variety of health conditions, functional limitations, care dependencies, personal factors, and organisational care environments.

Risk factors for incontinence

A systematic review examined five studies on the correlates of faecal incontinence in aged care facilities.⁴³ Risk factors that predicted the development of faecal incontinence included: urinary incontinence^{44 142}, neurological disorders or dementia.^{44, 45, 144}, and impairments in ADLs.^{44 45}. Poor mobility has also been highlighted as a risk in multiple studies, with an odds ratio as high as 3.1.⁴⁵

Organisational factors, such as the quality of the care provided and workforce structure, have also been identified as risks for incontinence. Lower quality of care has also been identified as a risk factor for becoming double incontinent²⁰, whilst residents in facilities with stronger staff cohesion had significantly lower odds of incontinence⁴⁶. Each standard deviation increase in staff cohesion score lowered the odds of incontinence by 7.6%. However, there was no association between incontinence and the consistent assignment of nurse staff to the same resident, nor using formalized versus self-managed teams.

In home care settings, logistic regression analysis showed that the highest risk for urinary incontinence was poor mobility (inability to walk), dementia, and then musculoskeletal disease.¹³

Risk factors for constipation

In institutional geriatric care settings (such as care homes), a number of risks have been identified, including the resident's: inability to walk independently or poor balance^{35 36}, impaired speech³⁵, poor appetite³⁵, the use of physical restraint³⁵, urinary incontinence³⁶, as well as a number of other health conditions such as stroke or parkinson's disease and overall instable health or frailty³⁶.

Appendix 2. Detailed description of incontinence-related ACFI and NSAF data

Aged Care Funding Instrument (ACFI)

The following continence data is collected by the Aged Care Funding Instrument (ACFI)¹⁴⁵ for residents living in residential aged care facilities.

(a) Medical Diagnosis Checklist. Up to three diagnoses can be listed. For residents with more than three diagnoses, then listed are the three most significant conditions in regards to the impact on the person's care needs. Relevant ACAP codes include: 1403 (Stress / urinary incontinence: includes stress, overflow, reflex and urge incontinence), 1707 (Bowel / faecal incontinence), 1708 (Unspecified urinary incontinence), 1709 (Retention of urine), 1101 (Diseases of the intestine: includes stomach/ duodenal ulcer, abdominal hernia (except congenital), enteritis, colitis, vascular disorders of intestine, diverticulitis, irritable bowel syndrome, diarrhoea, constipation).

(b) ACFI Q4 Toileting assesses the level of assistance required for (i) Use of Toilet and (ii) Toilet completion. Responses include: 'Independent / NA', 'Supervision', or 'Physical Assistance'.

(c) ACFI Q5 Continence checklist (Table 3) relates to the frequency of incontinence, including any episodes of incontinence and the passing of urine / bowels during scheduled toileting (considered an avoided incontinence episode). For an ACFI continence claim, a urinary record for three consecutive days and a bowel record for seven consecutive days is required. If claiming scheduled toileting, then documentary evidence of incontinence prior to implementing scheduled toileting is required.

Table 3. ACFI Q5 Continence Checklist. Table reproduced without permission from the ACFI Answer Appraisal pack.¹⁴⁵

Continence Checklist	Tick if YES
Urinary continence	
No episodes of urinary incontinence or self-manages continence devices	£ 1
Incontinent of urine less than or equal to once per day	£ 2
2 to 3 episodes daily of urinary incontinence or passing of urine during scheduled toileting	£ 3
More than 3 episodes daily of urinary incontinence or passing of urine during scheduled toileting	£ 4
Faecal continence	
No episodes of faecal incontinence or self-manages continence devices	£ 5
Incontinent of faeces once or twice per week	£ 6
3 to 4 episodes weekly of faecal incontinence or passing faeces during scheduled toileting	£ 7
More than 4 episodes per week of faecal incontinence or passing faeces during scheduled toileting	£ 8

National Screening and Assessment Form (NSAF)

The NSAF is used to assess the aged care needs of a person, including people that require Commonwealth Home Support Programme (CHSP) and Home Care Package (HCP) support. The following continence related data is collected by the NSAF.¹⁴⁶

(a) Medical Domain, Health Conditions - At least one health condition must be listed. Multiple conditions can be listed. The condition with the greatest impact on the person's need for assistance with ADLs and social participation is listed separately. Relevant ACAP codes include: 1,403 (Stress / urinary incontinence: includes stress, overflow, reflex and urge incontinence), 1,707 (Bowel / faecal incontinence), 1,708 (Unspecified urinary incontinence), 1,709 (Retention of urine), 1,101 (Diseases of the intestine: includes stomach/ duodenal ulcer, abdominal hernia (except congenital), enteritis, colitis, vascular disorders of intestine, diverticulitis, irritable bowel syndrome, diarrhoea, constipation).

(b) Toileting – Bladder; and Toileting - Bowels. These two questions in the 'Physical domain of function' section relate to the personal care aspect of toileting (bladder / bowel). Responses include: 'Without help', 'With some help', or 'Completely Unable'.

(c) Revised Urinary Incontinence Scale (RUIS); and Revised Faecal Incontinence Scale (RFIS). These two scales are used as follow up tools when there are indicators during the NSAF assessment that further assessment is required.

Appendix 3. Search strategy for MEDLINE

1.	(micturition adj2 leakage).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
2.	(terminal adj2 dribbl*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
3.	(Overactive adj2 bladder).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
4.	urgency.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
5.	nocturia.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
6.	Diarrh?ea.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
7.	(F?ecal adj2 seepage).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
8.	(f?ecal adj2 urgency).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
9.	constipation.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
10.	(f?ecal adj2 impaction).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
11.	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10
12.	incontinen*.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
13.	11 or 12
14.	(aged adj2 care).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
15.	ag*ing in place.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]

16.	independent living.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
17.	nursing home*.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
18.	care home*.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
19.	home care.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
20.	14 or 15 or 16 or 17 or 18 or 19
21.	13 and 20

Appendix 4. Inclusion and exclusion criteria

	Included	Excluded
Population	Any older person with characteristics that make them eligible for receipt of clinical care from an aged care service (residential or in the community), informal aged care recipients, i.e. frail older adults, vulnerable older adults, adults with chronic conditions or comorbidities such as dementia, poor mobility, functional decline, care dependence, end-of-life care needs	Young people in aged care; older people who would not be eligible for receipt of aged care (formal or informal)
Phenomena	Best practice continence care, broadly defined to include care for: - Urinary incontinence - Faecal incontinence - Dual/double incontinence - Chronic constipation - Nocturia - Lower urinary tract symptoms - Overactive bladder - Urinary or faecal urgency - Toileting assistance - Continence or incontinence products or aids - Toileting program (timed voiding, prompted voiding, habit retraining) - Prompted voiding - Bladder training - Electrical stimulation - Dietary interventions - Pharmaceutical interventions - Lifestyle interventions - Prevention strategies - Incontinence-associated dermatitis - Quality of life - Carer burden - Dietary interventions	Surgical interventions - Urinary catheters (indwelling or intermittent catheters) - Ostomy - Urinary retention
Outcomes	Promoting safety and quality in continence care; Best practices in continence care; Identifying barriers and facilitators to good continence care;	Prevalence of bladder/bowel disease/symptoms in setting of interest (tag); Contributors to the risk of bladder/bowel

	Strategies for older people in priority groups (people with dementia, First Nations, CALD, LGBTI); prevalence of bladder/bowel disease/symptoms in setting of interest; Secondary conditions resulting from incontinence-related disorders	disease/symptoms in setting of interest (tag); Continence care or continence condition not primary focus of study.
Settings	Residential aged care homes, community aged care (home care), informal aged care	Acute care, hospitals, sub-acute care, general practice, mental health services, disability services (community or residential), hospice, community pharmacy
Study Types	Quantitative empirical research, Qualitative empirical research, Systematic reviews / meta-analyses	Study protocols, expert commentary/opinion, editorials, conference abstracts, education programs, dissertations, promotional resources, studies sponsored by industry, case reports
Countries	Australia Europe (incl. Scandinavia) USA Canada UK New Zealand	
Language	English	
Timeline	2010 - present	

Appendix 5. Characteristics of included studies

Reference	Country	Study Aim	Condition/ Phenomena(s) of Interest	Study Population/ Participants	Setting	Study Design/Methods	Relevant Key Findings	Level
Arnold, E. P., et al. (2016)	NZ	To assess the efficacy and impact on quality of life, or providing nursing specialist continence advice about conservative therapy to elderly incontinent women living in a rest home setting, and if so at what additional cost	Change in functional impairment (FIM) QOL score (EQ-5D) Severity and impact of incontinence (ICIQ-SF) Efficacy of the individualised nursing care plan (bladder diary, pad weigh, pad usage, PVR) Costs (carer time, incontinence aids, laundry, continence nurse time and travel)	Elderly women with UI, and no cognitive impairment.	26 rest homes (mild to moderate level of disability and require some level of assistance with ADL's but are usually independentl y mobile)	Quantitative - Pre-test post	Conservative therapies tailored to each individual can improve the severity of urine leakage in the short term in older women residing in a rest home, with modest additional cost. QOL improved but this was not related to the decrease in the severity of urinary leakage. For some, changing to a more appropriate pad type was a significant benefit.	III
Blekken, L. E., et al. (2015)	Norway	To assess the effect of two educational programs for care staff.	FI - adherence to FI guidelines, clinical documentation, FI episodes Satisfaction with educational intervention and knowledge	Nursing home staff - RN's, LPN's, health care aids. Nursing home residents	Nursing homes	A three armed cluster-randomised controlled trial (pilot study) and qualitative interviews.	Minor improvement in FI episodes which is not significant due to small sample size. RNs and care staff in general did not manage to keep up the focus on FI assessment and management after a single intervention with a workshop. An essential pedagogical approach is to facilitate clinical reasoning and critical thinking among care staff and to empower the RNs in their professional role. Another is to facilitate processes among care staff on how to find,	III

							report, and utilize assessments and care plans in the resident health record.	
Bliss, D. Z., et al. (2014) Westra, B. L., et al. (2013) (Two studies reporting on same project)	USA	To assess whether there was a significant improvement and stabilization (not worse at discharge) in pressure ulcers, lower extremity venous ulcers, surgical wounds, urinary incontinence, bowel incontinence, and urinary tract infections in home health care (HHC) patients cared for by a certified Wound Ostomy and Continence (WOC) nurse.	Total number of pressure ulcers, lower extremity ulcers, surgical wounds, frequency of urinary incontinence, frequency of bowel incontinence. Type of intervention for a UTI in the past 14 days. Outcome measures - improvement/ stabilisation (not worse at discharge). Charston index of comorbidity. Caregiver characteristics.	447,309 people receiving HHC. 82.0% of sample were >65 years, of these 59.0% were >74 years of age.	Home health care services - 60% of episodes of care were related to urinary or faecal incontinence	Quantitative - descriptive and comparative	Patients with UI or FI were more likely to be assigned a specialist WOC nurse Patients cared for by a specialist nurses were more likely to have significantly improved and stabilised episodes of urinary or faecal incontinence than those not assigned to a specialist nurse.	III

	USA	To describe the prevalence, incidence, and effectiveness of home health care (HHC) agencies' services with and without a wound, ostomy and continence (WOC) nurse related to wounds, incontinence, and urinary tract infection (UTI) patient outcomes	Urinary incontinence Faecal incontinence	Home health care agencies	Community	Descriptive, comparative design Data from HHC agencies' electronic health records was analysed and an Internet-based survey of HHC agencies was conducted	The incidence of wounds, incontinence, and UTIs was higher for agencies with no WOC nurse. Home health care agencies with WOC nurses had significantly better improvement outcomes for pressure ulcers, lower extremity ulcers, surgical wounds, urinary incontinence, bowel incontinence, and UTIs as well as significantly better stabilisation outcomes for these outcomes except lower extremity ulcers. Virtually all patients in HHC agencies with and without a WOC nurse had stabilisation of their lower extremity ulcers	III
Booth, J., et al. (2013)	UK	To assess preliminary effects of a program of transcutaneous posterior tibial nerve stimulation (TPTNS) on lower urinary tract symptoms and number of episodes of urinary and fecal incontinence in older adults in residential care homes and the feasibility of a full-scale randomized trial.	Twelve 30-min sessions of TPTNS or sham simulation. Self reported ICI-SF, 6 questions from the ICIQ Bowel, and the AUASI for LUTS. Post void residual volume	Thirty care home residents aged 65 years or older who are experiencing bladder and/or bowel symptoms and/or incontinence.	Seven residential care homes and 3 sheltered accommodation complexes	Pilot single-blind placebo controlled RCT	LUTS improved and PVRV reduced significantly in the treatment group Total ICIQ-SF scores and bowel urgency scores improved in the treatment group (but not significantly). No adverse effects were reported. TPTNS is safe and acceptable with evidence of potential benefit for bowel and bladder dysfunction in older female and male residents of care homes.	I

Borglin, G., et al. (2020)	Sweden	To illuminate Registered Nurses' experience of continence care for older people receiving home care, either in their own home or in an assisted living facility.	Registered nurses' experience of caring for older people with continence care needs.	Eleven RN's who provide home care.	Home care	Qualitative descriptive	Four themes emerged: perceptions of continence care, an open approach to continence care, the need for personalised continence aid fittings and the importance of teamwork in continence care. Key findings were the importance of teamwork; the need for nurses to embrace leadership at the point of care and be more visible in terms of the provision of direct care; substantiation that evidence-based interventions, such as scheduled toileting and prompted voiding, should constitute the norm in continence care within the context of home care; and the need for nurses to support the right of older persons to receive an assessment of their continence problems, deemed to be the minimum standard of quality care. The provision of continence care that is based on key nursing standards, such as evidence-based and person-centred care, as well as individualised continence care that is based on evidenced-based guidelines, would ensure an improvement in the continence care that is presently on offer to older people.	III
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Buswell, M., et al. (2017)	UK	1. To identify which interventions to reduce and manage FI could potentially be effective, how they might work, on what range of outcomes (ie, organisational, resource use, and patient level of care), and for whom (or why they do not work)2. Establish evidence on the relative feasibility and cost of interventions to manage FI	Care for people living with dementia and FI.	Care home managers, care home staff, service user representatives, practice educators, academics, clinicians (i.e., doctors, nurses, and allied health professionals) with specialist interest in FI, continence specialists, and commissioners and providers of continence services (n=44).	Care homes for older people living with dementia	Realist synthesis using the RAMESES (Realist and meta-narrative evidence synthesis: evolving standards) guidelines. Involved a scoping literature review and group interviews with a purposively selected sample.	There was a lack of dementia-specific evidence on continence aids. Most care home residents with FI will be doubly incontinent; there is, therefore, limited value in focusing solely on FI or single causes, such as constipation. Medical and nursing support for continence care is an important resource, but it is unhelpful to create a distinction between what is continence care and what is personal or intimate care. Prompted toileting is an approach that may be particularly beneficial for some residents. The findings suggest that FI-related interventions that fail to tailor practices to fit with care home working, or do not provide ongoing support to staff on dementia informed continence care will probably have limited impact. Valuing the intimate and personal care work unqualified and junior staff provide to people living with dementia and reinforcement of good practice in ways that are meaningful to this workforce are important clinician-led activities. Providing dementia-sensitive continence care within the daily work routines of care homes is key to helping to reduce and manage FI for this population.	III
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Decalf, V., et al. (2020)	Belgium	To translate and culturally adapt the self-administered screening instrument 'Targeting the individual's Aetiology of Nocturia to Guide Outcomes' (TANGO) into Dutch for Belgium and to assess its test-retest reliability.	Nocturia (greater than 1 void overnight)	Community dwelling people older than 40 years and nursing home residents who have nocturia	Community and nursing home	A cross-sectional, descriptive study design	TANGO-D is a cross-cultural adapted Dutch translation of the original TANGO and showed good test-retest reliability in community-dwelling middle-aged people Validation of TANGO is required before use in clinical practice and the addition of a module of environment related items (e.g. woken by factors other than the bladder, lack of darkness at night to support sleep and environment or care-related causes) to extend the utility of the instrument when used in NH is desirable.	II
Dobarrio-Sanz, I., et al. (2020)	Authors from UK, Spain and Chile	To examine the characteristics and the effects of non-pharmacological interventions to improve constipation amongst older adults in long-term care settings	Non-pharmacological interventions to improve constipation	The criteria for the studies to be included in this review were: (1) participants to be older adults (aged 60 or above) living in long-term care settings; (2) RCT's; (3) to have been published in English, Spanish, French, Italian or Portuguese language; (4) to implement and evaluate a non-pharmacological intervention to improve	Long term care settings	Systematic review Seven studies were included in the review with 657 patients	Five interventions improved the number of bowel movements - laxative tea, fermented oat drink, patient education, probiotics and multi-component intervention (e. toilet prompting, encouragement of drinking and promotion of physical activity vs. toilet prompting, encouragement of drinking and snacking and promotion of physical activity). The administration of probiotic capsules and fermented oat drinks also improved stool form. Auricular acupressure improved constipation symptoms and constipation-related quality of life. After appraising the trials' methodological quality and risk of bias, the authors cannot recommend any non-pharmacological interventions to improve constipation amongst older adults in long-term care	II

				constipation; (5) to include a description of the methods used to assess constipation symptoms			settings until more robust studies have been conducted	
Drennan, V. M., et al. (2012)	Authors from UK	To assess the effectiveness of conservative interventions for the prevention or management of incontinence in community dwelling people with dementia or cognitive impairment.	The interventions of interest were conservative measures i.e. non surgical and non pharmacological. The main outcomes of interest were the effect on episodes of incontinence, burden for carers, quality of life for people with dementia and carers, and on costs.	The participants were defined as people with dementia or cognitive impairment, living at home, with incontinence problems.	Home care/commun ity	Systematic review 56 full text studies were included in the review, only three met the inclusion criteria, all more than a decade old. The three studies used different interventions and outcome criteria. The first involved an OT visit and an individualised toileting, hygiene, and continence program for the carer to implement. The second involved an NP delivered intervention with carers and resulted in a toileting program for the carer to implement and a continence education program. The third involved an NP delivered prompted voiding program and continence promotion program over eight weeks these interventions.	A program delivered by an OT did not result in lasting change in carer behaviour and action at 6 months. A tailored intervention delivered by a NP could reduce ineffective strategies in managing continence but recommended this required further investigation. An NP delivered program could reduce incontinence episodes at 6 months but that the change was not found to be significant. The review authors concluded that there was insufficient evidence to support or rule out effectiveness of any of these interventions. Some interventions were unacceptable for some carers. None specifically reported the perspective of the person with dementia.	III

Du Moulin, M. F. M. T., et al. (2010)	Netherlands	To gain insight into the use of quality systems to improve urinary incontinence (UI) care in older adults receiving home care and to assess the associations between these quality systems and UI-related process and patient outcomes.	Percentage of patients with UI, percentage of patients with a diagnosis regarding type of UI, mean amount of urine loss and mean frequency of urine loss.	3480 adults aged 65 years and older, living at home and receiving care from a home care agency and have been screened for UI.	19 home care agencies in the Netherlands comprising 155 home care teams.	Cross sectional survey	UI appears to be related to being a woman and having impaired mobility. 53% of the home care agencies and 86% of the home care teams used one or more quality systems to improve care for patients with UI. The quality systems most commonly used included appointing a continence nurse (at the home care agency level), doing a continence assessment, developing an individualised continence care plan (from a protocol) including relevant patient or carer education, and documenting UI-related actions in the patient's record (home care teams). Mixed model analyses revealed no associations between the quality systems and the UI process or patient outcomes.	III
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Ehlman, K., et al. (2012)	USA	The two research questions explored in this study were a) what are the differences in UI attitude and knowledge between RNs, LPNs, and CNAs; and b) are there changes in attitude and knowledge about UI among nursing care staff after educational in-services and the placement and utilisation of a bladder ultrasound scanner in a skilled nursing facility?	Urinary incontinence Outcomes measured: staff attitudes and knowledge about UI	Nursing home staff (registered nurses, licensed practical nurses, certified nursing assistants)	Skilled nursing facilities	Quasi-experimental design Intervention: Staff attended educational in-services about UI and about the operation of a bladder ultrasound machine. Facilities had a bladder ultrasound machine made available, and staff completed a pre- and post-intervention survey that assessed attitude and knowledge about UI	Most CNAs (83%) believed that bladder disorders are a normal part of ageing, while 50% of LPNs and 38% of RNs held this belief. A knowledge gap related to urinary incontinence exists, especially among CNAs in this study. Staff education and the placement of a bladder ultrasound scanner positively impacted both staff attitudes and knowledge of UI. If staff believe that bladder disorders are a normal part of aging, they may be less likely to vigorously pursue a non-pharmacological UI treatment program (e.g. scheduled voiding or bladder retraining). Staff who believe that UI can be treated and improved are more likely to embrace a UI treatment program	II
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Flanagan, L., et al. (2012)	UK	The aim was to compare published studies of interventions for the management of incontinence and continence promotion in older care home residents with UI as the primary focus.	Interventions for incontinence, continence promotion and maintenance of continence (UI and FI)	Older care home residents	Care homes	Systematic review	Toileting programs and incontinence pads are the mainstays of treatment, with some studies implying significant economic and labour costs although they do reduce the number of incontinence episodes. Drug therapy (for OAB) as an adjunct to toileting programs shows only moderate benefits. Combined physical therapy/behavioural therapies have shown effective short-term improvements. Adaptations to physical environment and staff training techniques should be implemented along with toileting programs. Exercise and Functional Incidental Training programs, although expensive, might provide additional benefit by reducing wetness rates and improving appropriate toileting rates. Combined complex behavioural interventions are a common feature and their effectiveness for the management of urinary incontinence should be determined in future studies.	III
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Flanagan, L., et al. (2014)	UK	To review interventions studies of associated factors with incontinence and continence promotion as the primary outcome in older people in care homes.	UI as the primary focus - associated factors, economic evaluation, skin care, exercise and mobility, staff quality and prompted voiding adherence, promoting continence.	Older care home residents	Care homes for older people living with dementia	Systematic review	Behavioural toileting programs are effective in reducing incontinence episodes with effects remaining at short term follow up. They involve resources, including quality staffing to implement them and ensure their effectiveness. Exercise and mobility interventions in conjunction with toileting programs appear to improve continence and QOL. Skin care regimes (inc. pH cleanser and barrier cream) are more effective than soap and water in preventing IAD. Having dedicated staff to manage incontinence and promote continence is essential. Promoting continence should include adequate hydration and recognising dehydration.	III
Fritel, X., et al. (2021)	Canada UK France	To identify which women participating in an educational workshop on incontinence were most likely to benefit from it.	Impact of an educational workshop to improve UI - QoL, impression of improvement, and urinary symptoms .	Women aged 65 or older who have UI but who are not receiving treatment for it.	Community	Open-label, multinational cluster RCT	A short, inexpensive and nonmedical intervention can change the mind-set and behaviour of older women with incontinence who are not seeking care. A clinically significant improvement is possible even in women with severe symptoms. Factors associated with a clinically significant improvement in urinary symptoms were more severe baseline urinary incontinence, obesity, and starting Kegel exercises. Factors associated with a clinically significant improvement in QoL	I

							were a poor urinary quality of life at baseline and an age younger than 81 years.	
Goodman, C., et al. (2013)	UK	To investigate whether a clinical benchmarking approach called Essence of Care could, with the support of district nurses, improve the bowel-related quality of care of care home residents	Chronic constipation FI	District nursing teams and care homes	Care homes	Quasi experimental pre-test post-test design and interviews	Bowel-related problems are a cause of significant personal distress and discomfort for residents and can lead to unplanned hospitalisation. District nurses and care home staff can incorporate a structured clinical benchmarking tool that aims to support continuous improvement in the quality of continence care into their day-to-day work by using a structured intervention to improve residents' care. The study did not demonstrate a significant reduction in bowel-related problems, however at an individual level of care, there were observable benefits, and examples of person-centred care were prompted through participating in the intervention and improved staff awareness.	II

							To improve the care of residents in care homes, district nurses and care home staff need robust working relationships where each group's expertise is respected and valued	
Goransson, C., et al. (2022)	Sweden	To conduct a synthesis of the literature on value-creating care for older persons with incontinence provided with toileting assistance and containment strategies, from the perspectives of older persons and healthcare professionals.	Urinary incontinence Toileting assistance Containment strategies	Older people with incontinence Health care professionals	Home care Nursing Home	Critical interpretive synthesis - literature review	Based on the findings, the conceptual construct 'The art of connectedness' was developed, built on co-created care, personalised care and reflective care between the older person and healthcare professionals. Co-created care is based on establishing a relationship, building trust and respecting preferences. Personalised care consists of meeting the person's needs, promoting comfort and maintaining self-determination. Reflective care entails showing empathy, upholding the person's dignity and developing professional competence. Assistance is given and received based on the older person's individual needs and is highly valued by the older person as it helps them maintain self-determination. Reflective care is of importance for healthcare professionals.	III

Hägglund, D. and L. Olai (2017)	Norway	To describe staff perceptions of enabling and inhibitory factors that influenced implementation of evidence-based practice (EBP) for urinary incontinence in a nursing home.	Staff perceptions of EBP for UI	Auxiliary nurses Registered nurses Managers	Nursing home	Qualitative - focus group interviews Data analysis using the Promoting Action on Research Implementation in Health Services (PARIHS) framework	Factors believed to be most enabling for implementation were EBP being considered as relevant and as a social process, and visiting the lavatory being considered as a right for all. One determinant of successful implementation was having clear and involved leaders who had a continuous positive attitude toward EBP and demanded results. Staff members who were given the role of continence agents were important facilitators. The factor believed to inhibit implementation most was staff having to carry out pad-weight tests before prescribing individual incontinence aids. Evidence-based practice offers a successful concept for caring for older people with urinary incontinence in nursing homes.	
Harrison, T., et al. (2019).	USA	To analyse quality of care for residents with urinary incontinence (UI) living in nursing facilities	Urinary incontinence Outcomes measured: skill performance (documentation of UI care plan), resident-provider interaction (resident satisfaction with staff response to desire to void), quality (perceived satisfaction and perceived health)	LTCNF residents with UI LTCNF residents' families LTCNF leadership staff (facility administrators, directors of nursing)	Long-term care nursing facilities (LTCNF)	Descriptive, correlational study using primary data obtained from chart reviews and interviews with participants	Only 54% of residents with UI had a care plan for their incontinence. For those with a UI plan in their chart, 35% had a person entered UI plan developed based on that resident's voiding pattern and needs. Further, the creation of a UI plan of care by a RN for a person with UI was associated with a higher perceived level of health after controlling for gender, and age. Finally, the more satisfied the resident was with the response to their calls for help	III

							with voiding the more satisfied with the nursing facility	
Harvey, G., et al. (2012)	Sweden England Ireland Netherlands	(1) To describe the process of introducing PACES to internal facilitators; (2) to discuss the progress made during a 12-month period of collecting and analysing audit data using PACES; (3) to summarise the collective experience of using PACES, including reflections on its strengths and limitations	Urinary incontinenceOutcome s measured: compliance with 4 recommendations related to screening, assessment care planning and specialist referral	Nursing home staff	Nursing homes	Multi-faceted implementation strategy that used the Joanna Briggs Institute Practical Application of Clinical Evidence System (PACES) as an online audit tool to support facilitators working to introduce evidence-based continence recommendationsIntervention: A 3-day workshop for NH internal facilitators (IF) on evidence-based recommendations about UI, and exposure to different forms of facilitation:- Type A IFs were trained in a pragmatic, quality improvement-based facilitation intervention (use of the JBI PACES) - Type B IFs were trained in an enabling, critical social science-based approach, with an emphasis on inquiry, reflection and emancipatory action	Delays in staff introducing PACES led to a lack of baseline audit data – resulting in a lack of comparative data. Qualitative data suggested IFs benefited from comparing audit data across sites, as this allowed them to share learnings and best practice Findings highlight the importance of thorough training and support for first time users of PACES and the need to make the audit process as simple as possible in the initial stages	III

Hodl, M., et al. (2019)	Austria	To measure the effectiveness of 29 evidence-based nursing recommendations regarding the conservative management of UI in Austrian NH	Urinary incontinence Outcomes measured: number of daily UI events, number of UI diagnoses, use of nursing interventions between IG and CG	Female nursing home residents	Nursing homes	RCT Intervention: Set of 29 recommendations for conservative UI management were discussed with the NH manager and printed material was provided	Residents who received conservative management had lower risk of daily UI, were less likely to receive absorbent products and were five times more likely to receive recommended interventions Therefore, introducing guideline-compliant management into nursing practice can increase the likelihood of evidence-based conservative management of UI	I
Hoedl, M., et al. (2018)	Austria Netherlands	To measure the effectiveness of 29 evidence-based nursing recommendations regarding the conservative management of UI in Austrian nursing homes.	Daily UI experienced by the residents	Female nursing home residents	Nursing homes	Cluster randomized intervention trial Nursing interventions were divided into two categories: (1) recommended interventions included modification of fluid intake, pelvic floor muscle training, bladder diary, bladder training, multidisciplinary team, weight reduction and caffeine reduction; and (2) provision with absorbent products such as absorbent inlay pads, slips, pants and bed pads and were not considered standard treatment.	At baseline, 77.9% intervention group residents and 80% control group residents experienced daily UI. After the intervention, residents in the intervention group had a lower risk of experiencing daily UI and were less likely to receive absorbent products than residents in the control group. Residents in the intervention were five times more likely to receive recommended interventions (e.g., bladder training) than residents in the CG. The introduction of adapted recommendations for the conservative management of UI among female nursing home residents can increase the likelihood to receive recommended interventions.	I

Jansen, L., et al. (2013)	Canada	To explore the social interaction processes of knowledge translation (KT) related to how UI management knowledge might be translated within in-home care.		Family caregivers Older home care recipients Home care providers	Rural home care setting	Qualitative - in-depth interviews Data analysis - constant comparative analysis (Grounded Theory)	The analysis identified a major theme 'translating knowledge through relating', a substantive theory with 10 subthemes: living with the problem; building experiential knowledge; developing comfort; easing into a working relationship; nurturing mutuality; facilitating knowledge exchange; building confidence; fine-tuning knowledge; putting it all together; and managing in-home care. The findings from this substantive grounded theory of translating knowledge through relating suggest that relational interactions are inextricably interlinked in and essential to translating in-home knowledge of UI management, which is largely tacit, "how to", and experiential knowledge in nature. Policies and procedures related to in-home services delivery need to take into consideration the essentiality of relationship-building to achieve knowledge transfer among providers' caregivers and clients, which demands attention to the continuity of assignments of providers to any one client. The findings of this study suggest that financial and human resource policies that support paid providers' time and educational resources for relational enactment of knowledge transfer particularly	III
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							within in-home working relationships may help to redress vulnerability, health impact and social exclusion experienced by many informal caregivers.	
Kohler, M., et al. (2018)	Switzerland	To explore the effects of an educational program and subsequent nursing case conferences on urinary incontinence and quality of life in NH residents with dementia and incontinence	Urinary incontinence Outcome s measured: urine leakage, quality of life	Nursing home residents and staff	Nursing homes	RCT Intervention: RNs, health assistants and nursing aides caring for residents received a four-hour dementia and incontinence training session comprising presentations, group work and discussions. Staff then participated in one-hour case conferences about persons with incontinence and dementia, occurring two weeks after the education session then monthly	After 6 months UI decreased or was approximately equal to the initial measurement. At the end of the study UI was slightly but not significantly higher. In the whole sample the quality of life increased in seven out of nine categories up to the end of the study Therefore, a 6-month staff educational program and case conferencing can reduce rates of UI and improves QOL of residents with dementia	I
Kristiansen, L., et al. (2011)	Sweden	To understand older persons', close relatives' and nursing staff's views and experiences of UI, and their experience of using a particular UI pad system with an alarm	Urinary incontinence Question s: 'In what way is life affected by UI; What is the most important and most valuable regarding UI aids in general, and the tested alarmed pad technique in specific; What is the experience of and the view about the design of the alarmed pad technique; and What are the risks using different techniques in nursing care'?	Nursing home residents Nursing home residents' families Nursing home staff (undergraduate nurses)	Nursing homes	A qualitative design with individual and focus-group interviews Intervention: residents were selected by staff to trial an alarm-equipped UI pad. Researchers provided staff with information on how the alarm pad system worked on four separate occasions, and provided assistance and support to staff throughout the trial.	- All participants felt that UI had a considerable negative effect on the lives of those with UI - namely increased vulnerability and loss of independence. Residents attempted to self-manage their UI in various ways (e.g. more frequent trips to the toilet, reduced fluid intake) as a way of mitigating the negative effects of UI. Residents expressed that they regarded themselves as burdens to others- Residents, families and some staff experienced UI as a natural consequence of ageing- Residents expressed reluctance and embarrassment in asking for help to cope with UI, and	III

							expressed a lack of knowledge about UI and UI aids - All participants felt that UI aids should be adapted to suit the individual's own body (i.e. they absorb well, are invisible and are comfortable)- All participants considered the alarm-equipped UI pad to be a good complement to ordinary care. It improved the quality of residents nightly rest, it was perceived as beneficial for residents who could not call for assistance, and staff were able to easily detect pad wetness. Residents also perceived that the pad reduced burden on staff and families with regards to changing residents' UI aids - Some participants worried that residents were neglected because staff relied too heavily on the alarm system. Some residents also found the alarm to be bothersome and noisy (especially for residents with dementia) and a potential source of embarrassment in public	
Lackner, T. E., et al. (2011)	USA	To determine the efficacy of oral extended-release oxybutynin for urge urinary incontinence in older female nursing home residents with mild to severe cognitive impairment.	Urinary incontinence episodes, urinary frequency, and total dryness assessed hourly over two 8-hour days (8 AM TO 4 PM), and evening and night nursing staff ratings of urinary symptoms.	Women aged 65 and older with urge incontinence and cognitive impairment	Skilled nursing home	Randomized, double-blind, placebo- controlled trial. Four-week treatment with daily oral extended-release oxybutynin 5 mg or placebo.	Of the participants, 96% on oxybutynin and 92% on placebo completed the trial. Compared with baseline, both groups achieved a significant median decrease in mean urinary incontinence episodes and urinary frequency at 4 weeks. There were no significant between-group differences in any urological outcome. Extended-release oxybutynin 5 mg per day for 4 weeks in older cognitively impaired female nursing home residents did not significantly reduce urinary	I

							incontinence and urinary frequency or achieve dryness.	
Lyons, S. S. (2010)	USA	To investigate the influence of organisational culture on continence care in nursing homes	Incontinence (type not specified)	Nursing home residents Nursing home residents' families Nursing home staff (direct care workers, professionals, and executives)	Nursing homes	Ethnographic study with data collected through participant observation, interviews, and archival records	Two types of organisational culture influenced continence care practices in different ways: - Open system (inclusive admission of residents with diverse and complex needs) prompted staff to use time-buying containment strategies rather than individualised continence care practices - Closed system (selective admission of residents with similar needs) allowed staff to use individualised continence care practices Barriers to good continence care included high staff turnover, interdisciplinary conflict, and a job-focused culture Facilitators of good continence care included organisational stability, interdisciplinary cooperation, and an employee-focused culture	III

Mathis, S., et al. (2013)	USA	To determine staff knowledge about the types of UI before and after participating in the Bladder Buzz program; staff attitudes about UI before and after participating in the program; and staff knowledge about the treatment and management of UI before and after participating in the program	Urinary incontinenceOutcome s measured: staff knowledge of UI (types of UI, common causesof UI, and clinical evidence-based treatment methods) and attitudes about UI (belief that UI is a normal part of ageing)	Nursing home staff (registered nurses, licensed practical nurses, certified nursing assistants, non-nursing staff)	Nursing homes	Quasi-experimental designIntervention: NH staff members received a 6-week educational intervention on the types and treatment of UI and attitudes toward UI, and completed pre- and post-intervention surveys	KNOWLEDGE: - Changes in knowledge about the types of UI showed statistical significance for stress, functional, and overflow UI. Changes in staff knowledge of the assessment and treatment of urinary incontinence did not reach statistical significance - Findings from this study point to a gap in knowledge about UI. Creative educational programming on UI tailored to direct care staff may reduce this knowledge gap - Increased staff knowledge about UI has the potential to improve identification of types of UI, assessment skills, and the success of treatment programs, and therefore to improve residents' quality of life ATTITUDES: - Changes in attitudes toward urinary incontinence showed statistical significance - Nursing home administrators can support positive attitudes about UI at an organisational level by providing educational resources for staff, supporting the development of procedures to assess and treat UI, and creating a culture where residents have a voice to discuss UI - If staff do not believe UI is a normal part of ageing, they may be more likely to identify causes of UI	II
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McCarthy, S. and D. Manning (2012)	Australia	To develop evidence-based and practical tools for use in aged care settings to educate staff, clients and residents to improve hydration practice and encourage adequate fluid intake for frail older people.	Hydration	Care staff who work with frail older people	Residential aged care and home care settings for frail older people	Mixed methods - focus groups and survey	After six months a follow-up survey of users of the information kit showed that the kit had been effective in educating older people, staff and carers about adequate fluid intake. Evidenced based recommendations from the literature review included: Frail older people should drink at least 1500 ml of fluid a day, unless advised otherwise by their doctor. A standard method of calculation can be used to calculate an individual's total daily fluid goals. Identify and monitor individuals at risk, such as those who were fully dependent for dehydration and semi-dependent for adequate fluid intake. Monitoring of hydration status can be done by recording fluid intake or output and use of a urine colour chart. This included providing education to carers and to the older person on the use of charts. Education for carers and the older person on the volume of containers used to serve fluids. Encourage drinking small amounts throughout the day and at the commencement of, during and at the completion of activities. Preferred fluids should be offered or encouraged. In the case of residents of aged care facilities that may be bedridden,	III
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							fluids should be offered at 90-minute intervals throughout the day. Caffeinated beverages such as tea and coffee, which are often the preferred drink of older people, are a good source of fluid that can be counted towards the daily fluid intake goal. However, tea and coffee should not be the only source of fluid intake. Alcohol, should not count towards fluid intake.	
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O'Connell, B., et al. (2011)	Australia	To evaluate a suite of evidence-based continence assessment tools and education resources for use in residential aged care	Staff perceptions of clinical usefulness of the continence assessment tools and education resources	Staff from public and private residential aged care facilities in three States	Public and private residential aged care facilities	Mixed methods - individual and focus group interviews and survey	An evaluation of the tools revealed that staff members found the tools helpful, clear, simple and user-friendly. The tools provided guidance to the unregulated workforce and assisted them in the management of continence care. Based on user feedback and on the fact that the tools comply with international and accreditation standards, the authors recommend that the suite of continence tools for residential aged care be used to guide and improve continence care in residential aged care settings.	III
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Ostaszkiwicz, J., et al. (2012)	Australia	To identify the descriptors used to report the quality of continence care in accreditation reports and compare those descriptors with a list of international recommendations for managing incontinence in frail, older people.	Continence care	A sample of 10% (n=87) of the 870 publicly available accreditation reports from RACF in New South Wales (NSW), Australia.	Residential aged care Reports were selected from RACF in inner regional areas; nine from outer regional areas; and one from remote areas.	Content analysis	Eighteen descriptors were identified in the reports, but only three were congruent with international recommendations. They were: the frequency of incontinence, residents' personal care goals and treatment preferences, and environmental factors. Reports lacked information about the quality and outcomes of continence assessments, what constituted resident/representative satisfaction, and a "system" or "process". As accreditation reports lacked information about care processes for actively diagnosing and managing residents' continence care needs, it may be useful for assessors to use a checklist of continence care recommendations based on international guidelines. Evaluation processes appear weighted to policies and practices that promote containment, rather than policies and practices that promote active diagnosis, treatment and management.	III
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Ostaszkiwicz, J., et al. (2012)	Authors from Australia	The aim was to describe current research that evaluated the impact of UI on residents' quality of life; residents' perspectives of having UI; and their preferences for continence care.	UI, dependence on carers or staff for assistance with toileting or bowel or bladder function, and residents' quality of life, experiences and preferences for continence care.	Elderly individuals with and without cognitive impairment and living in a RACF	RACF in any country	A descriptive review of the literature	Many residents' value having independent bowel and bladder function, but believe that incontinence is inevitable and intractable. Some residents adopt self-management strategies, however considerable barriers hinder their ability to maintain continence and manage incontinence. Residents often have low expectations, and hence decline further evaluation and treatment. Some express satisfaction with continence care even if this care is not consistent with their preferences. Little is known about how cognitively impaired residents perceive their condition. However some individuals with cognitive impairment respond with acute anxiety when carers' attempt to provide continence care. Residents' perspectives on incontinence and preferences for continence care relate to low expectations for improvement. Such misconceptions should be addressed and residents and their family members should be given a range of options from which to choose. As UI impacts on residents' quality of life, it is also important that continence care is delivered in a participative and sensitive way.	III
Ostaszkiwicz, J., et al. (2014).	Australia	To develop a grounded theory to describe and explain how residents of RACFs in Australia have	Continence care in residential aged care facilities	Care staff — experienced in providing, supervising or assessing continence	Residential aged care	Qualitative - Ground theory methods. Formal in-depth interviews and non-participant field observations.	Several themes emerged from the analysis - 'Caring against the odds' (multiple constraints to care) - subthemes included: experience of working in a highly regulated work environment, encountering	III

		their continence care needs determined, delivered and communicated.		care in an Australian RACF			ethically challenging situations, residents' high level of dependence, and a devalued role. The second major theme is 'wreathing constraints' (how staff responded to constraints to care) - subthemes included: attempting to accommodate the context of care; and, adopting self-protective distancing strategies. While addressing the day-to-day needs of residents who needed help to maintain continence and/or manage incontinence, nurses and PCA's struggled to enable residents to exercise choice and autonomy. The main factor that contributed to this problem was the fact that nurses and PCAs had to respond to multiple, competing and conflicting expectations about residents' care needs. This situation was compounded by workforce constraints, inadequate information about residents' care needs, and an unpredictable work environment. Providing continence care accentuated the ethical tensions associated with caregiving. Nurses and PCA responses were mainly characterised by highly protective behaviours towards residents. Underlying structural factors that hinder high-quality continence care to residents of aged care facilities should be urgently addressed.	
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Ostaszkiwicz, J., et al. (2016)	Australia	To develop a grounded theory that described and explained how residents' continence care needs were determined, delivered and communicated.	Continence care	Care staff — experienced in providing, supervising or assessing continence care in an Australian RACF	Residential aged care	Qualitative - Ground theory methods. Formal in-depth interviews and non-participant field observations.	The theory comprised: (i) a basic social problem termed 'caring against the odds', which described the main problem residential aged care staff experienced while performing their work; and (ii) a basic social process termed 'weathering constraints', which explained how staff grappled with, or responded to this problem. One key factor that contributed to the basic social problem was the impact of regulation on staff on the overall delivery of day-to-day care. Specifically, staff described being fearful of being found non-compliant with regulation, and this fear caused them to focus on activities to secure funding, meet accreditation standards, adopt overprotective behaviours towards residents and contribute to a charade of regulatory compliance. Staffs' beliefs and experiences about the requirements of the quality framework and the funding model fostered a climate of fear and risk adversity that had multiple unintended effects on residents' continence care, incentivising dependence on continence management, and equating effective continence care with effective pad use. There is a need to rethink the quality of continence care and its measurement in Australian residential aged care facilities.	III
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Ostaszkiwicz, J., et al. (2016)	Australia	To describe nurses' and personal care workers' beliefs and experiences of providing continence care at night in residential aged care facilities.	Night time continence care.	RN's, EN's and personal care workers	Residential aged care	Qualitative - Ground theory methods. Formal in-depth interviews and non-participant field observations.	Most residents were checked overnight at predetermined times. This practice was underpinned by their concern that residents were intractably incontinent and at risk of pressure injuries. Staff believed that most, if not all residents, were incontinent most of the time and that residents' incontinence was inevitable and intractable. Staff believed pads protected and dignified residents. The problem for staff was the fact that staff had a competing duty of care to protect residents from harm and concurrently uphold residents' rights to choose, autonomy and independence. Decisions were also influenced by beliefs about limited staff-to-resident ratios, occupational health and safety policies, managerial expectations and organisational rules about care. Night-time continence care should be audited to ensure decisions are based on residents' preferences, skin health, sleep/wake status, ability to move in bed, and the frequency, severity and type of residents' actual incontinence.	III
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Ostaszkiwicz, J., et al. (2020)	Authors from Australia	To describe, critique, and summarize research about the effects of education about urinary incontinence on nurses' and nursing assistants' knowledge and attitudes toward urinary incontinence, their continence care practices, and patient outcomes.	Effect of education about UI on nurses and nursing assistants knowledge and attitudes.	RN's, NP's CNS or nurse continence advisors, directors of nursing, EN's/LPN's, nursing assistants/ personal care workers.	Nursing homes, community	Systematic review	All trials that evaluated the effects on knowledge reported improvements; however, the effects of education on attitudes were mixed as were the effects of education on continence care practices. Eleven of the 19 studies reported the statistical effect of education on patient outcomes. Uncontrolled trials reported improvements in nursing home residents' and community-dwelling patients' continence status, but this effect was not observed in a large controlled trial. Two studies set in inpatient rehabilitation found no significant differences in patient continence outcomes following an educational intervention targeted to nurses. RN and nursing assistant education should differ. While improved knowledge and attitudes are important enablers of change, continuing education alone is unlikely to produce sustained changes in practice or corporate culture Further attention should be given to improving methods to increase nurses' ability to accurately identify patients' frequency and severity of UI. All RNs and NAs should be equipped with the depth and breadth of knowledge needed to prevent and actively manage UI.	III
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Palese, A. and G. Carniel (2011)	Italy	To assess the effects of a multi-intervention program consisting of use of new absorbent products, a structured skin care regimen, and nursing advice on clinical (incontinence-associated dermatitis [IAD]), economic, and environmental outcomes.	UI, prescience of IAD, specialist nursing advice, pad use, cost, waste.	Nursing home residents	Nursing home	Single-group, pre-/post intervention study. Phase 1 - baseline assessment of incontinence care, and, - introduction of a new absorbent product and structured skin care regimen, Phase 2 - introduction of advice by continence nurses.	All 63 subjects were found to have IAD at baseline. After introduction of the initial interventions (absorbent products and structured skin care regimen), IAD was observed in 31.7% of participants. After the introduction of advice from the continence nurse specialists, IAD was observed in 2 out of 63 residents (3.1%). Baseline evaluation revealed that incontinent residents used an average of 5.19 absorbent products per day. Following introduction of the multi-intervention program, the mean number of absorbent products consumed per day was 2.02. In addition to these clinical and economic outcomes, implementation of the multi-intervention program reduced the daily production of waste generated by the nursing home from 33 to 11 kg/d. Staff believed pads protected and dignified residents. Decisions were also influenced by beliefs about limited staff-to-resident ratios. Results of this study suggest that the introduction of nurse-managed changes in UI management may result in clinically relevant clinical, economic, and environmental outcomes	II
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Patel, J. R., et al. (2016)	USA	To explore the feasibility of using the Bristol Stool Chart (BSS) to improve communication about constipation with LTC residents	ConstipationOutcome s measured: number of bowel movements, episodes of constipation, use of the BSS, number of interventions made, and nurse satisfaction	Nursing home residentsNursing home staff	Nursing homes	Pilot quality improvement (QI) project with a pre-post intervention designIntervention: BSS was incorporated into a nursing note template in the electronic medical record, and patients and health care professionals were informed about using the BSS to help evaluate constipation. BSS charts were printed and displayed at nursing workstations and patient bathrooms, and an in-service on the BSS and the project was given for nurses. Nurses completed a pre-test to measure their knowledge before the in-service	The proportion of constipated patients decreased from 70% in the month at baseline (54 of 77 patients) to 27% in the month after the practice change (22 of 82 patients; $P < .001$). There were a total of 176 interventions (11.8% of 1487 bowel movements) done post- implementation. Routine use of the BSS was feasible in this project. Among nurses completing a satisfaction survey, most agreed that the BSS improved communication and helped to assess constipation	II
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Raepsaet, C., et al. (2021)	Belgium	To define the user profile, (technical) criteria, conditions, and potential benefits of the integration of sensor technology in disposable body-worn incontinence materials.	The integration of sensor technology in disposable body-worn incontinence materials.	Residents with incontinence Nurses and decision makers	Nursing homes	Qualitative study using a framework method. In-depth interviews.	The user profile for use of a sensor was defined as (1) residents with cognitive impairment and (2) residents who are bedridden or are severely limited in mobility. The sensor needs to be small, thin, and oval/circular sensor, an adaptable or in front attachment of the sensor on the absorbent product, a real-time indication of the absorbent product's saturation, leakage detection, liquid stool detection, the automatic recording of incontinence-related data, a durable sensor easy to disinfect, and receiving notifications on a wearable device. Conditions included a stable connection between the wearable device and the sensor, accurate measurements, user-friendly system, comprehensible training, affordability, and data protection. Potential benefits included workload reduction, increased comfort for residents and staff, more person-centred care, increased quality of care, less skin damage and economic (e.g., less costs due to less excessive absorbent product changes), and/or environmental (e.g. less waste) gains.	III
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Rahman, A. N., et al. (2012)	USA	To determine whether a distance coaching course on improving NH incontinence care could be replicated and brought to scale with a larger group of NHs without sacrificing outcomes	Incontinence (type not specified) Outcomes measured: participation, intervention implementation, training effectiveness, training program preferences, course costs	Nursing home supervisors and staff	Nursing homes	Quasi-experimental design Intervention: Staff participated in one of two courses - Course 1 (pilot-test course) - prompted voiding education delivered to staff via eight monthly teleconferences of 60–90 minutes each. Between webinars, staff were asked to complete implementation assignments and received telephone support/coaching from researchers Course 2 (replication course) - prompted voiding education delivered to staff via five monthly teleconferences and one follow up teleconference two months later, all of 40 minutes each. Between webinars, staff were asked to complete implementation assignments and received telephone support/coaching from researchers	There were no significant differences in participation, intervention implementation, knowledge increase or training preferences found between groups. Both groups showed a significant increase in knowledge compared to baseline. Moreover, using implementation assignments to guide new care practices, most supervisors reported evidence that their staff had assessed at least some residents using the recommended procedures and used the results to inform care plans. Overall, 6 out of 10 participants said they preferred the coaching course format to a more traditional 1–2 day offsite conference	II
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Rahman, A. N., et al. (2014)	USA	To administer and evaluate a webinar course that provided extended instruction to help NHs implement toileting trials in accordance with recommended procedures	Incontinence (type not specified) Outcomes measured: whether course prompted staff to implement toileting trials, whether a webinar course was preferred to traditional education model	Nursing home staff (nurses, DONs, MDS coordinators, staff educators, nursing aides)	Nursing homes	Quasi-experimental design Intervention: Six 40-minute webinars comprising an online course to assist NH staff to implement toileting trials were delivered to staff over nine weeks. Between webinars, staff were asked to complete implementation assignments	Twelve of 16 responding participants said they preferred the webinar course to other course designs. All respondents said they would recommend the course and take a similar course again. All facilities submitted some evidence that staff providers had completed implementation assignments. Most facilities reported plans to sustain use of the recommended protocol. Key learnings/recommendations for webinar courses:- Tailor course designs to the interventions advocated- Over-enrol nursing homes - Use user-friendly electronic communication tools - Treat participants like valued customers- Strive to get to know participants- Email reminders about everything - Promote peer sharing during webinars - Push ongoing assistance (phone and email)- Find opportunities to provide positive feedback - Continuously monitor and evaluate program	II
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Reckrey, J. M., et al. (2021)	USA	To evaluate the relationship between content of care (i.e., specific assistance with toileting) and adverse consequences (i.e., toileting accidents because no one was there to help)	Impairment in toileting Outcomes measured: dementia status, functional impairment, receipt of care, adverse consequences, other sociodemographic, caregiving, functional and clinical variables	Medicaid beneficiaries aged 65 years and older with probable dementia and impairment in toileting	Community	Analysis of data from longitudinal study involving annual in-person interviews and cognitive and physical performance tests with participants and proxies	Among community-dwelling adults with dementia and impairment in toileting, more than half (56%) reported an adverse consequence related to toileting in the last month. Only 67.3% received specific assistance related to toileting. 59.5% received 40+ hours of caregiving per week and 48.3% had 3+ helpers. While 25.7% of the sample had all three characteristics, 15.8% of the sample had only specific assistance with toileting only, suggesting receipt of specific assistance with toileting was related to, yet distinct from other markers of high intensity caregiving. As compared to those with no adverse consequences related to toileting, those who reported accidentally wetting or soiling themselves were less likely to receive specific assistance with toileting and more likely to receive Medicaid (i.e., dually eligible). In order to meet the complex care needs of those with dementia living in the community, we need to know not simply how much care individuals are receiving, but also the content of that care. Content of care assessment should be a part of both clinical care and ongoing caregiving research in order to ensure that those living in the community with dementia have care matched to their needs.	III
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Roe, B., et al. (2011)	Authors from UK	To undertake a narrative review of descriptive empirical studies on the management of incontinence, promotion of continence or maintenance of continence in people aged 65 years and above in care homes with UI as the primary focus	Urinary incontinenceInclusion criteria: Specified urinary incontinence or urinary and faecal incontinence with or without a definition included	Older residents	Nursing homes	Systematic review and narrative synthesis	Incontinence incurs personal and institutional costs in terms of quality of life, staff time, laundry, use of aids and appliances. Toileting residents incurred more financial costs than using incontinence pads due to the increased time requiredUse of incontinence pads and toileting programmes (bladder training, scheduled toileting and/or prompted voiding) comprised the most common management approaches usedHabit retraining, timed and prompted voiding are common toileting practices used in care home populations for residents with cognitive or physical impairments, with limited evidence on effectiveness for timed voidingNo studies reported involving residents in decision-making regarding their management goals. Involving residents of care homes or family members in decisions for managing incontinence should be more widely practised	III
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Roe, B., et al. (2013)	USA England Canada	To identify practices and associated factors for the management of incontinence and promotion of continence in older people in care homes.	UI, polices and staff and resident perceptions	Older residents	Nursing homes	Systematic review and narrative synthesis	The majority of residents in care homes with incontinence were women and were aged 80 years and above. Non-invasive methods involving toileting programmes and use of pads are commonly used to manage incontinence in older people in care homes and evidence suggests favoured by residents. No studies aimed at maintaining continence were identified. Older people and their families should be involved with decisions regarding their preferred care, goals, management and outcomes for managing incontinence, promoting or maintaining continence. Factors associated with incontinence, such as related comorbidities, management preferences, policies, staff views and knowledge, should be considered when planning and managing care and the organisation and delivery of systems and care within care homes.	III
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Roe, B., et al. (2015)	Authors from UK	To undertake a narrative synthesis of findings on study designs, methods and outcomes.	Urinary incontinence Inclusion criteria: conservative approaches for continence promotion, continence maintenance or management of incontinence (excluding drugs or surgical interventions) from behavioural or nursing perspectives	Care home residents	Care homes	Systematic review of systematic reviews with narrative synthesis	Toileting programmes, prompted voiding with or without exercise/mobility, and use of incontinence pads are the main conservative behavioural approaches (evidence of effectiveness in the short term dependent on staff adherence and resources) Assessment and diagnosis of incontinence, treatment of remedial comorbidities, individual toileting, use of incontinence pads, attention to hydration, skin care and maintaining optimum mobility and exercise are also essential for this vulnerable population. Involving older people and family as partners in their care is paramount	III
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Rycroft-Malone, J., et al. (2018) Seers, K., et al. (2018) (Two studies reporting on same project)	England	To uncover what worked (and did not work), for whom, how, why and in what circumstances during the process of implementing the facilitation interventions in practice	Continence care guidelines implementation	Nursing home site managers, nursing staff, facilitators, residents and next of kin, and relevant external stakeholders such as regional directors.	Nursing homes	Realist process evaluation included theory formulation, theory testing and refining. Involved semi structured interviews, non-participant observations, site and country reports, facilitator activity logs at four time points.	All study arms improved on the primary outcome (documented compliance with continence recommendations) over time in all countries, but this was not statistically significant. Both facilitation groups showed significantly better documentation in three outcomes: cognitive impairment, depression and incontinence-associated dermatitis between baseline and 24 months, although these were based on small numbers. Characteristics of more successful facilitators included: motivation to take on the role, desire to learn, years of nursing experience (because it helped with authority), confidence in self and in working with others, eagerness to succeed, perseverance (particularly when things are hard going), visible enthusiasm, commitment to improving the quality of care for older people, and being a good communicator. The active and visible participation of managers in implementation interventions and processes is important for the allocation of resources and provision of support. For this study, early managerial buy in and engagement with the study itself was an obvious antecedent to supporting what was required to implement the facilitation interventions over a sustained period.	III
	Sweden							
	Netherlands							
	Republic of Ireland							

	England Sweden Netherlands Republic of Ireland	To extend knowledge of facilitation as a process for getting research evidence into practice by testing the effectiveness of and evaluating the contribution two different models of facilitation can make to implementing evidence-based urinary continence recommendations into practice	Urinary incontinence Outcomes measured: documented percentage compliance with 4 continence recommendations, level of cognitive impairment, depression, IAD, UTIs, health-related QoL, proportion of residents with incontinence, use of pelvic floor exercises	Long-term nursing care residents with UI Long-term nursing care staff	Long-term nursing care sites	RCT Intervention:- Arm 1 (CG): Lecture about 4 continence recommendations: (1) the resident should be actively screened for incontinence, (2) a detailed assessment should be carried out, (3) an individualised treatment plan should be in place and (4) a specialist referral should be made if needed - Arm 2 (Type A facilitation): per Arm 1 plus a 12-month goal-focused facilitation programme - Arm 3 (Type B facilitation): per Arm 1 plus 24-month facilitation programme with stakeholder empowerment and strategies to overcome obstacles to use of research in practice	There were no statistically significant differences in compliance with continence recommendations between the groups. It was not possible to identify whether different types and “doses” of facilitation were influential within very diverse contextual conditions. For secondary outcomes, both the facilitation intervention groups (type A and type B) showed significantly better documentation of three outcomes: the level of cognitive impairment, depression and incontinence-associated dermatitis between baseline and 24 months, and this improvement did not occur in the standard dissemination (control) group. Clinically, this change was not large, and a substantial proportion of residents still had no documented assessment of these factors	I
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Samuelsson, E., et al. (2015)	Authors from Sweden	To systematically review the efficacy of pharmacological treatment for UI in the elderly and frail elderly	Urinary incontinence (results focus on urgency UI)	People aged 65 years and older with UI (elderly) and people living in nursing homes (frail elderly)	Community and nursing homes	Systematic review	Anticholinergic drugs have a small, but significant, effect on urinary leakage in the elderly with urgency urinary incontinence Adverse effects (dry mouth, constipation) were common. Data were insufficient for evaluation of the effect on quality of life or cognition Treatment with anticholinergics for UUI in the frail elderly is not evidence based	III
Schnelle, J. F., et al. (2010)	USA	To evaluate effects of a multicomponent intervention on faecal incontinence (FI) and urinary incontinence (UI) outcome	Urinary incontinenceFaecal incontinenceConstipationOutcomes measured: Frequency of UI and FI and rate of appropriate toileting. Anorectal assessments were completed on subset of residents	Nursing home residents	Nursing homes	RCTIntervention: Residents were offered toileting assistance, exercise, and choice of food and fluid snacks every 2 hours for 8 hours per day over 12 weeks	Intervention significantly increased physical activity, frequency of toileting and food/fluid intake. UI improved as did frequency of bowel movements and percent of bowel movements in toilet. The frequency of FI did not change. Most subjects (89%) who underwent anorectal testing showed a dyssynergic voiding pattern which could explain the lack of efficacy of this intervention program alone on faecal incontinence	I

Stenzelius, K., et al. (2015)	Authors from Sweden	To investigate the evidence and the effect of conservative treatment of UI and the quality of life among older and frail older persons	Urinary incontinence Inclusion criteria: episodes of incontinence/ urine leakage, adverse events and quality of life (QoL)	People aged 65 years and older with UI living at home (elderly) and in nursing homes (frail elderly)	Community and nursing homes	Systematic review	After 12 months there was a significant reduction in suppository use in the facility, from 130 to 20 per month. Feedback from staff showed support for the changes, recognition of the benefits of preserving residents' dignity and decreased odour in the unit	I
Svedas, K. and K. Wise (2012)	Australia	To implement a model of bowel care that would reduce the use of aperients including suppositories, not affect the time spent by staff on bowel care, and incorporate pear juice as a supplement to resident diets	Faecal incontinenceConstipation Outcomes measured: suppository usage, staff feedback on new bowel care regimen	Residential aged care residents with dementia	High-care residential aged care	Quality improvement projectIntervention: The project reviewed suppository use to manage constipation and set new guidelines for their use. Other interventions to maintain regular bowel motions included nursing assessment to provide individualised care, the introduction of pear juice and oral aperients, and the development of an individual toileting regimen for each resident	After 12 months there was a significant reduction in suppository use in the facility, from 130 to 20 per month. Feedback from staff showed support for the changes, recognition of the benefits of preserving residents' dignity and decreased odour in the unit	III

Tak, E. C. P. M., et al. (2012)	Netherlands	To compare a group-based behavioural exercise program to prevent or reduce UI, with usual care. The exercise program aimed to improve functional performance of pelvic floor muscle (PFM), bladder and physical performance of women living in homes for the elderly	Urinary incontinence Outcomes measured: Presence or absence of UI, frequency of episodes (3-day bladder diary), Physical Performance Test, SF-12 physical, SF-12 mental and I-QOL	Female nursing home residents	Nursing homes	RCT Intervention: Group-based behavioural exercise program comprising weekly group exercises and independent homework exercises for 6 months	Physical performance (PPT) significantly improved in the IG compared to a decline in the CG No significant differences between groups on any other outcome measures	I
Talley, K. M. C., et al. (2011)	Authors from USA	To identify conservative interventions for reducing urinary incontinence (UI) in non-institutionalized frail older adults.	Urinary incontinence UI frequency, volume, severity, or quality of life (QOL)	Frail older adults	Community	Systematic review	There is scant literature with low levels of evidence to guide UI management in frail older adults not living in a nursing home. Multicomponent behavioural interventions including pelvic floor muscle exercises and bladder training had the strongest evidence for reducing UI. Comprehensive geriatric assessments combined with multi-component behavioural interventions resulted in a majority of participants reporting improved or resolved UI, but determining if they had clinically significant improvements was not possible because UI frequency and severity were measured with categorical variables. Habit training with or without caregiver assistance and toileting skills training resulted in modest reductions in UI that were either not statistically or deemed	III

							clinically significant. Despite clinical guideline recommendations, none of the studies included interventions to improve functional impairments. Since functional impairments with gait speed, balance, and leg strength have been associated with UI in frail older adults, interventions targeting functional impairment may optimize continence status. There is insufficient evidence to derive firm conclusions regarding the use of conservative interventions. Clinical trials are needed on a variety of interventions to guide practice on UI prevention and management in frail community-dwelling older adults.	
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van Houten, P., et al. (2020)	USA Netherlands Sweden Switzerland Canada	To develop a toileting and containment decision support tool.	Development of a decision support tool for toileting and containment of incontinence	Expert health care practitioners Registered Nurses	For use in community and long term care settings	A multidisciplinary international expert panel was convened to provide input for a proposed decision support tool. Registered nurses from many countries were surveyed.	The authors agreed on categories of lifestyle intervention strategy advice that could usefully be given to any person being assessed to help prevent incontinence episodes: type of food and liquid intake; volume of food and liquid intake; timing of food and liquid intake; good voiding practices; appropriate clothing; and adaptations to the physical environment. Toileting strategies included: adaptations to the environment, toileting programs, bladder retraining programs, toileting aids, personal hygiene aids. Containment strategies included: absorbent products - disposable and washable, external catheters for men, external pouches. Factors to be considered when determining a containment strategy includes: nature and timing of incontinence, personal characteristics, desired level of social and other activity, protection from UTI and skin breakdown, comfort and fit, odour reduction, the ability of the carer to assist, ease of use. There is little evidence of the effectiveness of containment products and their suitability in different circumstances nor the effectiveness of toileting strategies	III
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Vinsnes, A. G., et al. (2012)	Sweden Norway Denmark	To investigate if an individualised training program designed to improve activity of daily living (ADL) and physical capacity among residents in NHs has any impact on UI	Urinary incontinence Outcomes measured: UI as measured by a 24-hour pad-weighing test	Nursing home residents	Nursing homes	RCT Intervention: Personal/individualised treatment goals were elicited for each participant. Each participant was then involved in a training program including accommodated physical activity and ADL training, for 3 months	Amount of leakage significantly decreased in the IG after adjusting for baseline leakage, age, sex and functional status Physical training programs for UI should be tailored, goal-oriented and accommodate residents' functional decline. Therapists should negotiate the goals with residents and/or their proxies as the goal might be maintenance of functional status or a delayed decline rather than improvement	I
Volz-Sidiropoulou, E., et al. (2018)	Germany	To develop a new assessment tool, the ICIQ-Cog, to measure the disease-related impact of incontinence in cognitively impaired adults and the effort associated with the care of this population, and to present the initial psychometric properties of this tool and outline the possible clinical implications	Incontinence (type not specified)	Nursing home residents	Nursing homes	Test-retest design The psychometric properties of the ICIQ-Cog were examined using a combination of classic and item response theory methods	The ICIQ-Cog consists of two scales: a 12-item scale measuring disease-specific bother (ICIQ-Cog-P) and a four-item scale assessing efforts associated with care of people with incontinence and cognitive impairment (ICIQ-Cog-C) The ICIQ-Cog tool has appropriate psychometric and clinometric properties and is therefore useful for making decisions about treatment in cognitively impaired adults with incontinence	III

Westra, B. L., et al. (2011)	USA	To discover which patient and support system characteristics and interventions documented by home health clinicians were associated with improvement in urinary and bowel incontinence contrasting logistic regression and data mining approaches	Urinary incontinence Faecal incontinence	Home health care agencies	Community	Secondary analysis of data from home health agencies' electronic health records	Significant association of variables was found for improvement in UI status. Surprisingly, none of the associations represented patient or support system characteristics; only interventions were associated with a significant likelihood of improvement Logistic regression analysis detected factors associated with an increased or decreased likelihood of improvement for incontinence including: Teaching about Disease, Treating or Monitoring Skin or Wounds, Teaching about Respiration and Circulation, and Medications and Monitoring Emotional and Cognitive Issues	III
Wijk, H., et al. (2018)	Sweden	To operationalise, assess, and evaluate the feasibility and preliminary effects of implementing a person-centred approach to incontinence care for older adults with cognitive decline in residential care facilities (RCFs) in Sweden	Outcomes measured: number of assessments conducted for incontinence management, QoL, basal assessment of incontinence, incontinence actions taken, personally chosen incontinence aids	Residential aged care staff	Residential aged care facilities	RCT Intervention: Staff caring for residents received a 10-month training program about how to encounter and interview residents from a person-centred approach and create person-centred care plans, and received training in incontinence assessment, planning, caring actions, and outcome follow up. Staff used this training to elicit resident narratives and incorporate these narratives into resident care plans	Non-significant increase in residents' QoL in IG compared to baseline and CG Positive effect on the number of UI assessments conducted in the intervention RCFs at baseline and Follow Up 1 Number of person-centred caring actions (e.g., toilet assistance) was significantly higher during and 6 months after implementation of the person-centred approach Staff should receive education about person-centred approaches to continence care for people with cognitive decline. This includes training about how to approach and interview residents using a person-centred approach (elicit narratives) and to use the information to create person-centred continence care plans.	I

Yu, P., Hailey D., et al. (2014)	Australia	To explore the effects of introducing a telemonitoring and care planning system for urinary continence assessment in a NH and adherence by care staff to urinary continence care plans	Urinary incontinence Outcomes measured: (1) weight of urine voided into the continence aid (episode of UI void); (2) number of prescribed toileting events in the care plans; (3) number of actual toileting events; (4) number of successful toileting events; (5) secondary measure of the rate of successful toileting; (6) adherence to care plans by staff. Measured at baseline and post-intervention	Nursing home residents Nursing home staff	Nursing homes	Quasi-experimental design Intervention: Staff who care for residents were trained in the use of video telemonitoring for continence assessment, over a 12-week trial	Significantly reduced volume of urine voided into continence aids Significantly reduced number of prescribed toileting visits Significantly increased number of actual toilet visits Significantly increased number of successful toileting events Significantly increased adherence to urinary continence care plans by staff Identifying residents' usual voiding volume using technology such as a sensor may provide information to develop individualised prompted voiding regimens	II
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Yu P., Traynor V, et al. (2014)	Australia	To survey current urinary continence assessment and management practices in Australian nursing homes.	Compliance with and perceptions about UI assessment and management.	Nursing home staff (personal care workers, EN's, RN's)	Nursing homes	Cross sectional survey	77% of care staff (PCAs, ENs and RNs) were compliant with the UC management protocol of checking for wetness every 2 to 2.5 hours. Toileting time and frequency of changing continence aids varied between nursing homes. Perceptions about the accuracy of UC assessments and knowledge of an older person following UC assessment also differed between nursing homes. The areas where UC assessment and management in nursing homes could be improved include identifying the voiding times of older people, compliance with care plans in management practice, and caregiver ability to assess the capacity of continence aids to absorb urine.	III
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Zarowitz, B. J., et al. (2015)	USA	To determine the proportion of nursing home (NH) residents (NHR) with overactive bladder (OAB) or urinary incontinence (UI) with potential pharmacodynamic contraindications to antimuscarinic treatment because of concomitant anticholinergic medications or acetylcholinesterase inhibitors (AChEIs) and nonpharmacological limitations to antimuscarinic treatment	Urinary incontinence Overactive bladder	Nursing home residents with OAB or UI	Skilled nursing facilities	Cross-sectional retrospective analysis of linked and deidentified pharmacy claims and Minimum Data Set (MDS) 3.0 records	Of NHRs, 71.3% received at least one anticholinergic medication. Medications that can cause or worsen UI were used commonly. AChEIs and antimuscarinic treatment were prescribed concurrently in 24% of NHRs with OAB or UI. NHRs with OAB or UI were more likely to have concurrent moderate to severe cognitive impairment (MSCI) (70.1%) than those without (29.9%) ($P < .001$). NHRs with or without OAB or UI and with MSCI were more likely to be treated with an anticholinergic medication than those without MSCI ($P = .001$). When NHRs with MSCI, severe mobility impairment (SMI), and anticholinergic medication and AChEI use were excluded, only a small proportion of NHRs were potential candidates for antimuscarinic treatment (6.6% with OAB or UI, 6.2% with UI).	III
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Appendix 6. The Best Practice Model of Continence Care in Residential Aged Care

Principle 1: Continence Care is Person-Centred through Supported Shared Decision-Making

Description	Person-centred care concepts that are key to principle one of the Model are: choice, autonomy, personhood, values, goals, preferences, supported shared decision-making and involvement of significant others. Person-centre care is an essential foundation for health-care quality and patient safety and is a high priority for the delivery of health and aged care services. Person-centred continence care depends on a coordinated interdisciplinary approach incorporating ongoing communication between a resident, their care partner(s) and the healthcare team. It is operationalised through a structured process known as ‘supported shared decision-making’. The process involves engaging residents and, care partner(s) (where appropriate) in a narrative about themselves and their lives. A supported shared decision-making process provides a way to identify and understand a resident’s values, preferences, and goals and integrate them into their clinical care. A resident may need support to identify and express their values, preferences and goals for care.
Application to Practice	Providers have policies, procedures and systems in place to: • Identify, document and communicate a resident’s individual continence care values, goals and preferences through a supported shared decision making process. <i>(Quality Standard 2)</i> • Implement person-centred continence management that aligns with a resident’s continence care values, goals, preferences and clinical care needs. <i>(Quality Standard 3)</i> • Uphold a residents’ right to exercise autonomy related to their continence care values, goals and preferences whilst ensuring they are safe. <i>(Quality Standard 1)</i>
Resident Outcomes	• Choice and dignity underpin all aspects of a resident’s continence care. <i>(Quality Standard 1)</i> • Continence care practices enhance a resident’s choice, autonomy, and dignity, and align with their values, goals, and preferences. <i>(Quality Standard 1)</i> • Information about a resident’s continence care needs is collected with that resident’s consent and remains confidential. <i>(Quality Standard 1)</i>

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Principle 2: Continence Care is Clinically Informed through an Assessment Process

Description	A comprehensive evidence-informed continence assessment conducted by staff with the requisite knowledge and skills is a crucial first step in the provision of clinically informed and person-centred continence care. Practices that are central to clinically informed continence care are: (i) the use of reliable and valid tools such as the <i>Continence Resources for Aged Care</i> to support continence screening, assessment and care planning for older people; (ii) relevant, accurate and comprehensive information; and (iii) the involvement of residents and, if appropriate, their nominated care partner(s).
Application to Practice	Providers have policies, procedures and systems in place to: • Comprehensively screen, assess, document and communicate a resident's clinical continence care needs. <i>(Quality Standard 2)</i> • Identify who to involve as a care partner in a resident's continence care assessment, planning and evaluation. <i>(Quality Standards 1, 2)</i> • Use a comprehensive and evidence-informed continence assessment tool (i.e. the Continence Resources for Aged Care) that prompts assessment of all factors that contribute to bladder and/or bowel dysfunction, including non-biological factors, and use that assessment to inform continence care planning, care and evaluation. <i>(Quality Standard 2)</i> • Interpret the assessment findings to develop a continence care plan that: ○ Aligns with a resident's values, goals and preferences. <i>(Quality Standards 1, 3)</i> ○ Promotes healthy bladder and bowel function. <i>(Quality Standard 3)</i> ○ Addresses a resident's emotional, social and clinical care needs including elimination, skin care and hygiene needs. <i>(Quality Standard 3)</i> ○ Identifies the most appropriate type of continence care (i.e. using the Continence Care Decision Support Tool – for Residential Aged Care Staff) <i>(Quality Standard 3)</i> ○ Minimises the risks of incontinence-associated dermatitis, falls, depression, and bladder and bowel signs and symptoms that warrant medical attention such as urinary tract infections, urinary retention, renal failure, constipation, faecal impaction, voiding difficulties, bowel obstruction. <i>(Quality Standard 3)</i>

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	○ Addresses a resident's need for services and supports for daily living i.e. incontinence products, assistance, and/or specialist care. (<i>Quality Standard 4</i>) • Involve specialists such as Medical Practitioners/Specialists; Nurse Practitioners; Advanced Practice Nurse; Nurse Continence Specialists; Urology Nurses; Physiotherapists; Accredited Practicing Dietitians; Wound Management Specialists/Consultants; and Therapists to assess and manage co-existing comorbid conditions that impact a resident's continence status or ability to successfully toilet. (<i>Quality Standards 3, 7</i>)
Resident Outcomes	• A resident has access to a comprehensive and evidence-informed assessment to identify their continence care values, goals, preferences, and clinical care needs. (<i>Quality Standard 2</i>) • A resident is able to choose who to involve in their own continence care planning and evaluation. (<i>Quality Standards 1, 2</i>) • A resident receives continence care that: ○ Aligns with their values, goals and preferences. (<i>Quality Standard 3</i>) ○ Promotes healthy bladder and bowel function. (<i>Quality Standard 3</i>) ○ Addresses their emotional, social and clinical care needs, including elimination, skin care and hygiene needs. (<i>Quality Standard 3</i>) ○ Minimises the risks of incontinence-associated dermatitis, falls, depression, and bladder and bowel signs and symptoms that warrant medical attention. (<i>Quality Standard 3</i>) ○ Addresses their need for services and supports for daily living i.e. incontinence products, assistance, and/or specialist care. (<i>Quality Standard 4</i>) • A resident can access specialist support, including medical advice about medications and other factors that potentially influence bladder and bowel function. (<i>Quality Standards 3, 7</i>) • A resident is involved in their own continence care assessment, planning and evaluation, and their care plan is readily available to them. (<i>Quality Standard 2</i>)

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Principle 3: Continence Care is informed by the Best Available Evidence

Description	Increasing and expanding the capability of the aged care workforce to access, understand, use and embed evidence in their work practice is a priority. This principle encapsulates continence care that is informed by the best available evidence about incontinence, bladder and bowel function and about person-centred care. All individuals involved in a resident's continence care should have an understanding of, and commitment to evidence-informed practice to ensure that a resident's continence care is informed by the best available evidence. An evidence-practice gap leads to ineffective, unnecessary or potentially harmful care. Resident and family member testimony are important sources of evidence, as are clinical practice guidelines , research studies , and systematic reviews . Organisations should have strategies in place to support the workforce to access evidence, interpret it, and translate it into practice.
Application to Practice	Providers have policies, procedures and systems in place to: • Use a comprehensive and evidence-informed continence assessment tool (i.e. the Continence Resources for Aged Care) that prompts assessment of all factors that contribute to bladder and/or bowel dysfunction, including non-biological factors, and use that assessment to inform continence care planning, care and evaluation. (<i>Quality Standard 2</i>) • Facilitate staff access to contemporary evidence about bladder and bowel symptoms and continence care, such as Clinical Practice Guidelines. (<i>Quality Standards 7</i>) • Ensure that a resident's continence care is based on the best available contemporary evidence. (<i>Quality Standard 7</i>)
Resident Outcome	• A resident's continence care is based on the best available contemporary evidence. (<i>Quality Standards 3, 8</i>)

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Principle 4: Continence Care Protects a Resident's Dignity

Description	Dignity is a core value that informs and guides continence care in many care settings, including residential aged care homes. Aged care providers have a duty to maintain residents' dignity, even when there is a question mark about residents' capacity or awareness about what is happening to them. Whilst some continence care practices honour a resident's dignity, others can diminish it. Continence care practices that are characterised by respect, empathy, trust, privacy, autonomy and communication, are likely to honour a resident's dignity (Ostaszkievicz et al., 2020a). For example, the way a care provider communicates with a resident about incontinence or care dependence and interacts with them during continence care interactions is likely to uphold or diminish that resident's dignity. People often differ in their beliefs about what causes their own dignity, or the dignity of others to be violated, i.e. use of an incontinence product could honour the dignity of one resident, and diminish the dignity of another. Hence, it is important to understand the resident's values, preferences, and goals and integrate them into their clinical care.
Application to Practice	Providers have policies, procedures and systems in place to: • Ensure staff have a shared understanding of continence care practices that are likely to honour a resident's dignity. <i>(Quality Standards 1, 7)</i> • Equip staff with therapeutic communication skills to manage the interpersonal dynamics of the caregiving encounter in ways that protect a resident's dignity, builds their resilience, and promotes their physiological and psychological wellbeing. <i>(Quality Standards 7)</i> • Ensure staff are aware of the role of empathy and trust in the caregiving relationship. <i>(Quality Standard 7)</i> • Ensure a resident's continence care plan addresses the goal of their dignity. <i>(Quality Standards 1, 2)</i> • Ensure the home is equipped with features to protect a resident's dignity and privacy during toileting or changing of incontinence products, such as curtains and doors, and private bathrooms where possible. <i>(Quality Standard 5)</i>
Resident Outcomes	• Choice and dignity underpin all aspects of a resident's continence care. <i>(Quality Standard 1)</i> • A resident receives continence care that protects their dignity, thus maintaining their personhood and integrity. <i>(Quality Standard 1)</i>

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Principle 5: Continence Care Optimises a Resident's Functional Abilities

Description	An older person's continence status is directly related to their functional status. Functional status refers to a person's mobility, lower limb strength, transfer ability, balance and toileting skills. Maintaining or restoring a resident's functional status can improve or restore their continence status. Continence care should therefore focus on preventing or slowing the rate of functional decline or helping a resident to regain lost function, through incidental and prescriptive activity. Strength training programs should be developed and delivered in an individualised way in consultation with trained therapists. A coordinated, multidisciplinary approach is essential. This approach involves all staff working together with the resident to conduct a 'functional assessment' and to develop and implement a plan of care that optimises a resident's functional abilities.
Application to Practice	• Providers have policies, procedures and systems in place to identify and respond to opportunities to maintain or improve a resident's functional status. <i>(Quality Standard 3)</i> • Providers ensure a resident has access to individualised strength training programs to maintain or improve their functional status. <i>(Quality Standard 3)</i> • Providers ensure a resident's strength training program is developed and delivered in consultation with trained therapists. <i>(Quality Standard 3)</i> • Providers ensure the physical design of the home optimises a resident's continence and independence. Barriers such as poor lighting, poor access, inadequate space, a cluttered environment, poor toilet signage, distance to toilet, lack of gender appropriate toilets, lack of access to a call bell and malodour are addressed. <i>(Quality Standard 5)</i> • Providers ensure a resident has access to assistive equipment to optimise their continence and independence. <i>(Quality Standard 5)</i> • Providers ensure a resident is able to request and obtain appropriate assistance to optimise their continence and independence. <i>(Quality Standard 5)</i>
Resident Outcome	• A resident has access to continence care that maintains or improves their functional and continence status. <i>(Quality Standard 3)</i>

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Principle 6: Continence Care is Timely and Responsive

Description	Best practice continence care responds to the different needs of residents and also accommodates the fact that a resident's need for support may change over time. Timely and responsive continence care is characterised by: • Timely responses to a resident's request for assistance. • Practices that aim to make a resident feel comforted and comfortable. • Timely responses to changes in a resident's bladder and bowel symptoms and continence care needs. • Care plans that are responsive to resident differences and to a change in a resident's continence care needs. A lack of timely and responsive continence care causes iatrogenic or potentially preventable incontinence as does the promotion of incontinence products as a substitute toilet. The more satisfied residents are with staff responses to their calls for help with toileting, the more satisfied they are with the home.
Application to Practice	Providers have policies, procedures and systems in place to ensure staff have the knowledge, skill and resources to: • Identify and respond in a timely and responsive way to residents' requests for support to maintain continence or to manage incontinence. (<i>Quality Standards 3, 7</i>) • Identify and respond in a timely and responsive way to changes in a resident's continence care needs. (<i>Quality Standards 3, 7</i>) • Develop, implement and evaluate continence care plans that are targeted and responsive to resident differences, including: ○ A preventative continence care plan. (<i>Quality Standard 7</i>) ○ A restorative continence care plan. (<i>Quality Standard 7</i>) ○ A maintenance continence care plan. (<i>Quality Standard 7</i>) ○ An end-of-life continence care plan. (<i>Quality Standard 7</i>)
Resident Outcome	• A resident receives timely and responsive continence care. (<i>Quality Standard 1</i>)

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Principle 7: Continence Care is Inclusive and Respectful of a Resident's Culture, Diversity, Identity and Life Experiences

Description	A person-centred approach to continence care is characterised by a tailored and appropriate approach to meeting the needs of residents with diverse characteristics. The Model stresses a resident's rights to inclusive and respectful continence care, while embracing their culture, diversity, identity, and life experiences. Factors that support the provision of inclusive, respectful continence care are: (i) Adoption of contemporary diversity policies ; and (ii) Adoption of a human rights-based approach to healthcare .
Application to Practice	- Providers ensure that staff who are delivering continence care have access to cultural competency training and diversity training that aligns with local needs, and equips staff with the knowledge and skills to: - Develop continence care plans that consider a resident's individual needs with regards to culture, diversity, identity, life experience, access and equity. (<i>Quality Standard 7</i>) - Deliver skilled and sensitive continence care for a resident who identifies as Lesbian, Gay, Bisexual, Transgender and Gender Diverse, and/or Intersex. (<i>Quality Standard 7</i>) - Deliver skilled and sensitive continence care for a First Nations resident. (<i>Quality Standard 7</i>) - Deliver skilled and sensitive continence care for a resident from a Culturally and/or Linguistically Diverse background (<i>Quality Standard 7</i>) - Deliver trauma-informed continence care for a resident with diverse life experiences. (<i>Quality Standard 7</i>) - Providers have workforce recruitment and retention approaches in place to ensure that staff delivering continence care reflect the diversity of residents and the community, such as the employment of bilingual and First Nations staff. (<i>Quality Standard 7</i>) - The governing body ensures that the <i>Aged Care Diversity Framework</i> and its accompanying <i>Action Plans</i> are embedded into organisational planning practices related to continence care. (<i>Quality Standard 8</i>)
Resident Outcomes	- A resident receives continence care that respects and responds to their individual needs with regards to culture, diversity, identity, life experience, access and equity. (<i>Quality Standard 1</i>) - A resident and/or their nominated care partner(s) have access to translation services and/or information in an accessible format when discussing that resident's continence care needs. (<i>Quality Standards 2, 7</i>)

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Principle 8: Continence Care is Safe

Description	Principle eight relates to the right for a resident with continence care needs to be safe at all times. Safe continence care is planned, integrated, coordinated and evaluated. It is enabled and characterised by: • <i>A systematic approach to continence care planning and delivery</i> • <i>The involvement of residents and care partners</i> • <i>Feedback systems</i> • <i>The use of evidence-informed quality indicators</i> • <i>An appropriately trained and skilled workforce</i> • <i>The adoption of aged care policies and principles</i> • <i>Systems and processes to respond effectively to changes in a resident's continence care needs and bladder and/or bowel symptoms that require medical attention</i> Although it is ultimately the governing body's responsibility to ensure a resident is safe through good corporate governance, including clinical governance, many governance responsibilities are distributed throughout the organisation (Australian Commission on Safety and Quality in Health Care, 2017). This means, although the governing body bears the overall responsibility of establishing sound policies and procedures to ensure continence care is planned, integrated, coordinated and evaluated; implementation involves contributions by individuals and teams at all levels of the organisation.
Application to Practice	• The governing body has a clinical governance framework characterised by systems and processes for screening, assessing, managing, communicating, auditing, and evaluating a resident's continence care needs. (<i>Quality Standard 8</i>) • The governing body has systems and processes in place to identify and respond effectively to changes in a resident's continence care needs, such as: ○ A referral system for urgent medical or specialist attention for bladder and bowel symptoms that warrant medical attention such as urinary tract infections, urinary retention, renal failure, constipation, faecal impaction, voiding difficulties, bowel obstruction. (<i>Quality Standard 8</i>)

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- A mechanism to monitor, report and reduce the risks associated with incontinence such as incontinence-associated dermatitis, falls, and depression. *(Quality Standard 8)*
- A monitoring and review system to ensure minimal use of: (i) anticholinergic medication, (ii) opioid medication, (iii) laxatives, and (iv) urinary and/or faecal diversions, and to ensure their use remains clinical valid and that there are no adverse side effects. *(Quality Standard 8)*
- Standardised infection prevention programs that are integrated into policy and practice to minimise the risks associated with urinary and faecal diversions, including the risk of antibiotic resistance. *(Quality Standard 8)*
- The governing body monitors/audits the quality and safety of continence care to inform continuous quality improvement and uses evidence-based quality indicators for continence care. *(Quality Standard 8)*
- The governing body ensures that the organisation has:
 - A stable cohesive workforce of employees who know residents and their individual continence care needs
 - A workforce with strong leadership, including clinical leadership.
 - Clearly defined roles, responsibilities and accountabilities and clear lines of communication among staff who provide direct or indirect continence care and processes to assess the continence care competence of the workforce and monitor if staff are working within their defined scope of practice.
 - A sufficient number of staff with the knowledge and skills to implement best practice continence care.
 - Staff who have undertaken cultural competency training and diversity training.
 - Staff access to specialist clinical advice about continence care.
 - Staff access to education programs about continence care that:
 - Are informed by contemporary evidence about bladder and bowel health, incontinence, person-centred care and supported decision-making, and equip all staff who provide continence care with the competence to communicate with residents' and/or their care partner(s) about a resident's continence care needs and to convey kindness and empathy
 - Accredited and provided by individuals/organisations that do not stand to gain financially from the promotion of incontinence
 - Reflect contemporary evidence about culture and diversity.

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	▪ Are informed by contemporary aged care policies, standards of practice, and codes (<i>Quality Standard 8</i>). • The governing body implements change-management strategies and evidence-informed interventions related to continence care that are tailored to organisational culture to promote adoption and sustainability. (<i>Quality Standard 8</i>) • The governing body provides a mechanism for a resident and/or their nominated care partner(s) to input into the development and evaluation of clinical governance related to continence care. (<i>Quality Standard 8</i>) • Providers have processes in place to capture feedback from a resident, their nominated care partner(s) and the community about continence care, and demonstrate how they have acted on this feedback. (<i>Quality Standard 6</i>)
Resident Outcomes	• A resident with continence care needs, including a resident with a urinary and/or faecal diversion has access to evidence-informed, person-centred clinical care that keeps them safe. (<i>Quality Standard 3</i>) • A resident and/or their nominated care partner(s) have the opportunity to be involved in developing and improving continence care practices, including systems and processes for screening, assessing, managing, communicating, auditing, and evaluating a resident's continence care needs. (<i>Quality Standard 8</i>) • A resident, their nominated care partner(s) and the community have regular opportunities to provide feedback on and engage in discussion about continence care. (<i>Quality Standard 6</i>) • A resident has access to specialist support from Medical Practitioners/Specialists; Nurse Practitioners; Advanced Practice Nurse; Nurse Continence Specialists; Urology Nurses; Physiotherapists; Accredited Practicing Dietitians; Wound Management Specialists/Consultants; Therapists; and Continence Clinics. (<i>Quality Standards 3, 7</i>)

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Principle 9: Continence Care is Provided By an Appropriately Trained and Skilled Workforce

Description	<i>Caring without competence often leads to harm, while competence without caring is often inhumane</i> (Marcum, 2012). This important statement emphasises the importance of a workforce that is appropriately trained and skilled, has the requisite competence to undertake their role, and is clear about their own roles and responsibilities and those of their colleagues. An appropriately trained and skilled workforce is critical to the implementation of evidence-based, safe, clinically informed, person-centred continence care that optimises a resident's functional abilities and responds to their individual needs, choices and dignity. A trained and skilled workforce has: (i) Access to evidence-informed education about person-centred continence care (ii) Continence care competencies • Communication skills • Attributes of kindness and empathy • A commitment to honouring each resident's dignity • Cultural competence • The ability to identify and respond to changes in a resident's continence care needs and bladder and/or bowel symptoms that require medical attention (iii) Clarity of roles and responsibilities. The ability to work as a member of a team and understand their own and other staff members' roles and responsibilities and work within their scope of practice.
Application to Practice	• Providers ensure a resident has access to specialist support and continence care from a workforce with relevant knowledge or qualifications to assess and manage a resident's continence care needs. (<i>Quality Standards 3, 7</i>) • Providers offer regular education about continence care to all staff involved in providing or supervising a resident's continence care (including registered professionals, support workers, supervisors and those in leadership roles). (<i>Quality Standard 7</i>)

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	• Providers ensure staff have access to education programs that: ○ Are informed by contemporary evidence about bladder and bowel health, incontinence, person-centred care and supported decision-making, and equip all staff who provide continence care with the competence to communicate with a resident and/or their care partner about the resident's continence care needs and to convey kindness and empathy. <i>(Quality Standard 7)</i> ○ Accredited and provided by individuals/organisations that do not stand to gain financially from the promotion of incontinence. <i>(Quality Standard 7)</i> ○ Reflect contemporary evidence about culture and diversity. <i>(Quality Standard 7)</i> ○ Are informed by contemporary aged care policies, standards of practice, and codes. <i>(Quality Standard 7)</i> • Providers ensure that staff providing continence care have access to cultural competency training and diversity training (see Principle 7). <i>(Quality Standard 7)</i> • Providers have systems in place to assess the continence care competence of the workforce and monitor if staff are working within their defined scope of practice. <i>(Quality Standard 7)</i>
Resident Outcome	• A resident has access to best practice continence care from staff who are appropriately skilled and educated, including specialists <i>(Quality Standards 3, 7)</i>

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Principle 10: Continence Care is Appropriately Resourced

Description	The implementation of evidence-based, safe, clinically informed, person-centred continence care that optimises a resident's functional abilities and responds to their individual needs, choices and dignity depends on appropriate resourcing. These resources include: • An enabling environment • Assistive equipment • Incontinence products • A sufficient number of skilled and qualified staff An enabling physical environment that is resourced with an appropriate number of staff with the knowledge and skills to deliver continence care combined with the appropriate use of assistive equipment and incontinence products can optimise a resident's continence, independence, health, well-being and quality of life.
Application to Practice	• Providers have policies and procedures in place to identify and address structural conditions that contribute to poor quality continence care, i.e. physical environmental barriers, understaffing, and an insufficient number of adequately skilled and qualified staff. (<i>Quality Standards 5,7</i>) • Providers ensure the home optimises a resident's continence and independence and manages incontinence, including: ○ Clear signage to indicate the location of toilets in the home (including signage in languages that reflect the linguistic demographic of the resident population). (<i>Quality Standard 5</i>) ○ The home is equipped with features to protect a resident's dignity and privacy during toileting or changing of incontinence products, such as curtains and doors, and private bathrooms where possible. (<i>Quality Standard 5</i>) ○ Appropriate waste disposal systems and policies to handle incontinence products. (<i>Quality Standard 5</i>) ○ Equipment and facilities related to toileting are safe, clean, well maintained and suitable for the resident.

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	○ Sufficient supplies of suitable incontinence products that a resident can access when needed. (<i>Quality Standard 5</i>)
Resident Outcomes	• A resident has access to best practice continence care from staff who are appropriately skilled and educated, including specialists. (<i>Quality Standards 3, 7</i>) • A resident and/or their nominated care partner(s) have access to translation services and/or information in an accessible format when discussing that resident's continence care needs. (<i>Quality Standards 2, 7</i>) • A resident has access to the products, equipment and toilets necessary to self-manage or have staff manage their incontinence and/or symptoms, consistent with their goals, values and preferences. (<i>Quality Standard 5</i>) • A resident has access to assistive equipment that enables them to use the toilet, including hoists, walking frames, and railing within bathrooms. (<i>Quality Standard 5</i>) • A resident is able to access a call bell to enable them to request assistance with toileting and/or changing incontinence products. (<i>Quality Standard 5</i>)

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Appendix 7. Evidence-based recommendations for the conservative management of urinary incontinence

Lifestyle interventions

Lifestyle interventions are recommended as first line therapies for the promotion and management of urinary incontinence in all aged groups based on a careful appraisal of the person's continence assessment and general health state. Lifestyle interventions include: modifications in fluid intake, exercise, weight loss, and caffeine reduction. Wagg et al.⁶ cautions that few if any of these interventions have been rigorously evaluated in frail older people. Here we present evidence for modifications in fluid intake and exercise programs in frail older adults.

Modifications in fluid intake

Promoting continence should include adequate hydration and recognising dehydration.¹⁴⁷ However, increasing a frail older person's fluid intake, especially if they have cognitive impairment, can be challenging. McCarthy and Manning¹⁴⁸ developed an information kit and practical tools for use in residential aged care homes, to inform staff, clients, and residents about the relevance of hydration to bladder and bowel function. At the end of the six-month evaluation period, they reported the information kit was effective in educating older people, staff and carers about adequate fluid intake.

Frail older people should drink at least 1500 ml of fluid a day, unless advised otherwise by their medical practitioner.

- ☐ A standard method of calculation can be used to calculate an individual's total daily fluid goals.
- ☐ Identify and monitor individuals at risk, such as those who were fully dependent for dehydration and semi-dependent for adequate fluid intake.
- ☐ Monitoring of hydration status can be done by recording fluid intake or output and use of a urine colour chart. This included providing education to carers and to the older person on the use of charts. Education for carers and the older person on the volume of containers used to serve fluids.
- ☐ Encourage drinking small amounts throughout the day and at the commencement of, during and at the completion of activities. Preferred fluids should be offered or encouraged. In the case of residents of aged care facilities that may be bedridden, fluids should be offered at 90-minute intervals throughout the day.
- ☐ Caffeinated beverages such as tea and coffee, which are often the preferred drink of older people, are a good source of fluid that can be counted towards the daily fluid intake goal. However, tea and coffee should not be the only source of fluid intake. Alcohol should not count towards fluid intake.

Exercise programs

Exercise programs that aim to maintain or improve an older person's mobility and functional skills can positively impact an older person's continence status and quality of life. Tak et

al.¹⁴⁹ demonstrated the feasibility of a group-based behavioural exercise program in ‘homes for the elderly’ in Canada. After 6 months the intervention group participants physical performance significantly improved compared to a decline in the usual care group. Although rates of urinary incontinence did not differ between usual care and the intervention group, both groups experienced a reduction in urinary incontinence. Similar findings were reported by Vinsnes et al.¹⁵⁰ who conducted a randomised controlled trial to assess the effects of an individualised training program designed to improve activity of daily living and physical capacity of residents in residential aged care homes in Norway. The intervention consisted of a 3-month training program. Compared to the usual care group, the volume of urine leakage significantly decreased in the intervention group after adjusting for baseline leakage, age, sex, and functional status. The researchers recommended that exercise programs for urinary incontinence be tailored, goal-oriented and accommodate residents’ functional decline. They also emphasised the importance of working with the individual resident’s personal goals as they may be maintenance of functional status or a delayed decline rather than improvement.

Behavioural interventions

Behavioural programs for the management of urinary incontinence include pelvic floor muscle exercises and systematic voiding programs.¹⁵¹

Pelvic floor muscle exercise programs - we were unable to locate evidence about the effectiveness of pelvic floor muscle exercise programs for older people with complex care needs in residential aged care homes or in the community.

Systematic voiding programs include bladder training and toileting assistance programs such as timed voiding, prompted voiding, and habit training.¹⁵² **Bladder training** is a behavioural technique to promote continence or minimise incontinence. The aim is to increase the functional capacity of the bladder over time. It is effective depending upon the clinical and social situation of the person, although the research evidence is inconclusive. These strategies are within the scope of practice of a registered nurse and can be utilised in their simplest or more extensive forms. **Toileting assistance programs** aim to avoid or minimise episodes of incontinence by supporting carers to use strategies to manage a care-dependent individual’s urinary voiding activity. Unlike bladder training, they do not aim to change bladder capacity or function. Toileting assistance programs are an important component of continence care for people who are care-dependent. Whilst some people only require a verbal prompt, others need physically assistance with all aspects of toileting. There are two main ways to implement a toileting assistance program:

- The first approach relies on carers offering verbal prompts or physical assistance, or both, to the care-dependent individual to use the toilet at arbitrarily determined fixed voiding intervals, such as every two to four hours, regardless of whether they have an urge to void or not.
- The second approach involves identifying the care-dependent individual’s usual voiding pattern and verbally prompting or physically assisting them, or both, to use the toilet prior to the predicted voiding time.¹⁵²

As the program is entirely dependent on the availability and capacity of one or more carers, the intervention should include education and ongoing support. For example, in residential aged care homes, it may be necessary to additionally provide a structured education programme, ongoing clinical support, and supervisory feedback to optimise formal carers’ adherence to a toileting assistance program.¹⁵² Prompted voiding (with and without exercise

or mobility training) is effective in reducing urinary incontinence, improving request for toileting assistance and appropriate toileting in the short term.

Appendix 8. Information about quality measures for continence care

The Assessing Care of Vulnerable Elders (ACOVE) Quality Indicator for urinary incontinence

The Assessing Care of Vulnerable Elders Quality Indicators for urinary incontinence comprises 14 quality indicators covering the following issues:

- initial evaluation and annual assessment of urinary incontinence,
- targeted basic history;
- targeted physical examination and laboratory testing;
- postvoid residual;
- classification before treatment;
- discussion of treatment options;
- response to treatment;
- behavioural and lifestyle treatments;
- preoperative urodynamic testing;
- surgery for stress UI;
- catheter use.¹³⁴

The RAND Corporation is a non-profit, nonpartisan research organisation that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. The original ACOVE indicator suite, developed in 2000, consisted of more than 200 quality indicators to evaluate the care associated with 22 clinical conditions commonly experienced by vulnerable older adults. The current ACOVE measurement set (ACOVE-3) consists of 392 quality indicators covering 26 different conditions commonly experienced by vulnerable older adults. The ACOVE quality indicators should be used to inform the medical management of urinary incontinence in older adults with complex care needs who live in the community. Their applicability to the everyday care of frail older adults in residential aged care is unclear.

Key performance indicators for individuals who require a toileting and containment strategy

A suite of 14 key performance indicators (KPIs) were developed to measure outcomes for people with a bladder and/or bowel problem who aim to maintain social continence through the combined use of toileting and incontinence products individuals.¹³⁵ They were designed to accommodate the needs of three groups of people with bladder and bowel problems:

- Independent
- Care dependent but able to communicate their need to toilet or manage incontinence products
- Care-dependent, but unable to communicate their need to toilet and have their continence managed with incontinence products

The process to develop the KPIs involved a scoping review to identify existing evidence about relevant KPIs followed by a Delphi process to refine the list with reference to international experts. Each selected KPI is described in terms of the type of KPI (i.e. structure, process or outcome), the intended user, the rationale, the care setting that it may be applicable to, an indicator of monitoring and reporting processes involved, a definition of

success, the ease of measurement, and whether it addresses a clinical, quality of life, or economic issue.

The Resident Assessment Instrument-Minimum Data Set 2.0 Quality Indicators

The most widely used quality indicators for measuring and monitoring the quality of care in residential aged care internationally are the Resident Assessment Instrument-Minimum Data Set Version 2.0 (RAI-MDS 2.0) quality indicators. The RAI-MDS is a comprehensive standardised instrument used to assess residents' strengths and care needs. It was developed in the U.S. following the passage of the Nursing Home Reform Act in 1987 that mandated the implementation of a uniform, comprehensive resident assessment system to improve aged care regulation and quality of care. The original RAI-MDS instrument was developed in 1991 by the interRAI network (www.interrai.org) and in 1995 it was revised and improved and became known as the RAI-MDS version 2.0. Whilst the Centers for Medicare and Medicaid Services (CMS) in the U.S. now uses MDS version 3.0, many other countries continue to use the RAI-MDS 2.0, i.e. Belgium, Canada, China, Finland, Hong Kong, Iceland, Italy, New Zealand, and the United Kingdom. The validity and reliability of the different versions of the RAI-MDS has been extensively investigated. Two of these quality indicators address the quality of care related to incontinence:

- Percent of low-risk residents who lose control of their bowels or bladder
- Percent of residents who have/had a catheter inserted and left in their bladder

The quality indicators data for each CMS certified residential aged care home in the U.S. are collected and publicly reported, providing homes with a rating from 1 (much below average) to 5 (much above average). Carpenter and Hirdes¹⁵³ claim use of the data has led to substantial changes in cost structures for U.S. residential aged care. However, a systematic review of the RAI-MDS 2.0 quality indicators by Hutchinson et al.¹⁵⁴ suggests evidence for their reliability and validity is inconclusive, particularly the quality indicators related to urinary incontinence. As such, Hutchinson et al.¹⁵⁴ caution overreliance on results from quality indicators data alone. Rather, the results should be interpreted with reference to other evidence relevant to care quality and reasons for low scores should be explored.

The European Centre for Social Welfare Policy and Research Results-Oriented Indicators

Another international and centralised approach to improving the quality of care for older people in long-term care homes is the work undertaken by the European Centre for Social Welfare Policy and Research through a project titled 'PROGRESS'.¹³⁶ The European Centre is a UN-affiliated intergovernmental organisation concerned with all aspects of social welfare policy and research. In 2011, the Centre produced a policy brief titled 'Quality Management by Result-oriented Indicators - Towards Benchmarking in Residential Care for Older People' which lists 94 valid results-oriented quality indicators, including 45 quality of life quality indicators:

- 16 leadership quality indicators
- 3 economic performance quality indicators
- 2 context quality indicators
- 24 quality of care quality indicators

Of the 24 quality of care quality indicators, two address the quality of care related to incontinence:

- Percent of residents with urinary incontinence at least once a week

- Percent of residents with a long-term catheter inserted more than 14 days ago.

The ICHOM core set of outcome measures for OAB treatment

Foust-Wright et al.¹³⁷ describe a core set of outcome measures to measure outcomes associated with the treatment of OAB among community-dwelling populations. The standard set measures symptom burden and bother, physical functioning, emotional health, impact of symptoms and treatment on quality of life. The measures were developed by an international working group of the International Consortium for Health Outcomes Measurement (ICHOM)(www.ichom.org). Consensus was determined by a modified Delphi process, and discussions were supported by both literature review and patient input.

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