We Don’t Ask, They Don’t Tell: Breaking the Silence to Address Incontinence in Canada

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About the National Institute on Ageing

The National Institute on Ageing (NIA) is a public policy and research centre based at Toronto Metropolitan University (formerly Ryerson University). The NIA is dedicated to enhancing successful ageing across the life course. It is unique in its mandate to consider ageing issues from a broad range of perspectives, including those of financial, psychological, and social well-being.

The NIA is focused on leading cross-disciplinary, evidence-based, and actionable research to provide a blueprint for better public policy and practices needed to address the multiple challenges and opportunities presented by Canada's ageing population.

The NIA is committed to providing national leadership and public education to productively and collaboratively work with all levels of government, private and public sector partners, academic institutions, ageing related organizations, and Canadians.

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Executive Summary

Incontinence, or the involuntary loss of urine or stool/gas, is remarkably common. A nationally representative epidemiological survey recently found that approximately 24 per cent of Canadian adults were living with urinary incontinence (UI) (Shaw, Cahill, & Wagg, 2020). The average prevalence of fecal incontinence (FI) among those living in the community is estimated to be around 5 per cent (Rizk, 2010), and much higher among those living in institutional care settings (CIHI, 2013).

Incontinence can lead to social isolation, loneliness, depression and other serious health consequences (Ramage-Morin & Gilmour, 2013; Damian et al., 2017). This includes an increased risk of falls, as well as institutionalization in a nursing home or other congregate living setting.

Incontinence is one of the most under-reported and under-treated conditions faced by older Canadians.

Exacerbating the challenge is that many Canadians believe it is a normal part of ageing even though it is not (Shaw et al., 2019). While age is a risk factor, in many cases, incontinence is both preventable and treatable.

As the incidence of incontinence increases with age, older adults have a significantly higher prevalence of incontinence than younger people in Canada. In addition to age, other risk factors include lifestyle (e.g. obesity), medical conditions (e.g. diabetes, heart disease, lung disease, certain neurological conditions), medications and environmental factors (e.g. lack of access to public toilets). It is important to properly screen for incontinence and assess the conditions of those living with incontinence. The first line of treatment should be lifestyle approaches (such as changing one’s diet and/or losing weight) and behavioural approaches (such as pelvic floor exercises) that promote continence, before considering the use of medications or surgery.

There is a general lack of awareness and education about incontinence both within the general public and among health care providers. Due to the stigma of incontinence, it remains underreported and many people are reluctant to seek help from professionals. This can lead to social isolation and loneliness, with some reports finding that people who have incontinence are 1.8 times more likely to experience loneliness than those who do not (Ramage-Morin & Gilmour, 2013). It can also affect sexual intimacy and intimate relationships (Hayder, 2012).

In addition, there are negative physical outcomes such as skin irritation and breakdown that can lead to incontinence-associated dermatitis (IAD) (Yates, 2018).

Incontinence is a leading cause of institutionalization among older adults (CIHI, 2017; Maxwell et al., 2013; DuBeau, Simon, & Morris, 2006). It can also be a major expense and source of financial strain for those living with incontinence, their unpaid caregivers and the health care system as a whole, with total costs of UI estimated at around $8.5 billion annually (Cameron Institute, 2014a). When factoring in FI, costs could be as high as approximately $10 billion annually. The impact of incontinence on unpaid caregivers is also significant, affecting their quality of life and requiring a considerable amount of their effort and time to manage.

It is imperative to increase both public and health care-provider awareness about incontinence, in order to reduce stigma and to spur better prevention and treatment efforts.

The National Institute on Ageing proposes the following six evidence-informed policy recommendations and practices to better address incontinence in Canada:

1. Increase efforts to raise public awareness and reduce stigma around incontinence
2. Improve resources and educational opportunities for health and care professionals
3. Encourage quality and standards organizations, such as the Health Standards Organization (HSO), to incorporate and promote evidence-informed practices and measures to better address and manage incontinence
4. Promote research and knowledge translation of best practices to manage and treat incontinence
5. Ensure the availability of publicly accessible toilets, as part of the creation of more age-friendly communities
6. Promote greater equity around funding support to manage incontinence

Setting the Context

What is Incontinence?

Incontinence, or the involuntary loss of urine or stool/gas, is remarkably common. In Canada, it has recently been estimated that around 24 per cent of the adult population is living with urinary incontinence (Shaw et al., 2020). Incontinence can lead to social isolation, loneliness, depression and other health consequences, including an increased risk of falls and of placement in a nursing home or other congregate living setting.

Incontinence is one of the most under-reported and under-treated conditions faced by older Canadians.

Exacerbating the challenge is that many Canadians believe it is a normal part of ageing. However, it is not. While age is a risk factor, incontinence is often both preventable and treatable.

There are two major types of incontinence that a person might face during their lifetime: urinary incontinence and fecal incontinence. Both significantly affect the quality of life and well-being of affected individuals and their caregivers. Urinary incontinence (UI) is defined by the International Continence Society (ICS) (D’Ancona et al., 2019) as “the involuntary loss of urine.”

Fecal incontinence (FI) is similarly defined as “the involuntary loss of feces” or stool from the bowel (D’Ancona et al., 2019). The Canadian Continence Foundation (CCF) notes that FI occurs more rarely than UI (Cameron Institute, 2014a), and makes the important distinction that incontinence is not a “disease” per se, but rather a “symptom” that signals another part of the body is not functioning properly (CCF, n.d.a.).

The incidence of incontinence increases with age, and can be associated with certain medical conditions, including infection, diabetes, obesity, stroke, Parkinson’s disease, and cognitive impairment associated with Alzheimer’s disease and other dementias. These causes will be explored in greater detail later in this report. As there are different types and causes of incontinence, all cases should be reported and discussed with a health care provider (CCF, n.d.b).

While this report will touch on FI, its main focus will be the more prevalent UI.

Defining the Different Types of Urinary Incontinence (UI)

There are a number of different types of UI. We focus on six primary types of UI in this report, although there are less common types as well:

Stress Urinary Incontinence is defined as "a complaint of involuntary loss of urine on effort or physical exertion including sporting activities, or on sneezing or coughing" (D'Ancona et al., 2019).

Urgency Urinary Incontinence is defined as a "complaint of involuntary loss of urine associated with urgency" (D'Ancona et al., 2019). Where urgency is defined as "complaint of sudden, compelling desire to pass urine which is difficult to defer" (D'Ancona et al., 2019).

Mixed Urinary Incontinence is defined as "complaints of both stress and urgency urinary incontinence, that is, involuntary loss of urine associated with urgency as well as with effort or physical exertion including sporting activities or on sneezing or coughing (stress)" (D'Ancona et al., 2019). Other forms of mixed urinary incontinence exist but will not be discussed in this report.

Overflow Urinary Incontinence is defined as a "complaint of urinary incontinence in the symptomatic presence of an excessively (over-) full bladder (no cause identified)" (D'Ancona et al., 2019). It is characterized by a frequent leakage of urine without the feeling of urgency, or the inability to urinate normal volumes (CCF, n.d.c). As a result, the bladder remains full and the amount of urine that exceeds the capacity of the bladder leaks out (CCF, n.d.c).

Disability Associated Urinary Incontinence, which is a "complaint of urinary incontinence in the presence of a functional inability to reach a toilet/urinal in time because of a physical impairment, (e.g. orthopedic, neurological) and/or mental impairment)" (D'Ancona et al., 2019).

Overactive Bladder (OAB) is defined as "urinary urgency, usually accompanied by increased daytime frequency and/or nocturia with urinary incontinence (OAB-wet) or without (OAB-dry), in the absence of a urinary tract infection or other detectable disease" (D'Ancona et al., 2019). Nocturia is needing to urinate during the night, when sleeping.

Defining the Different Types of Fecal Incontinence (FI)

Similar to UI, there are several different types of FI, but only the primary types listed here will be the focus of this report:

Fecal (Flatal) Urgency Incontinence is defined as a “complaint of an involuntary loss of feces (flatus) associated with fecal urgency” (Sultan et al., 2017).

Overflow Fecal Incontinence is defined as a “complaint of involuntary loss of stool due to an overfull rectum or fecal impaction” (Sultan et al., 2017).

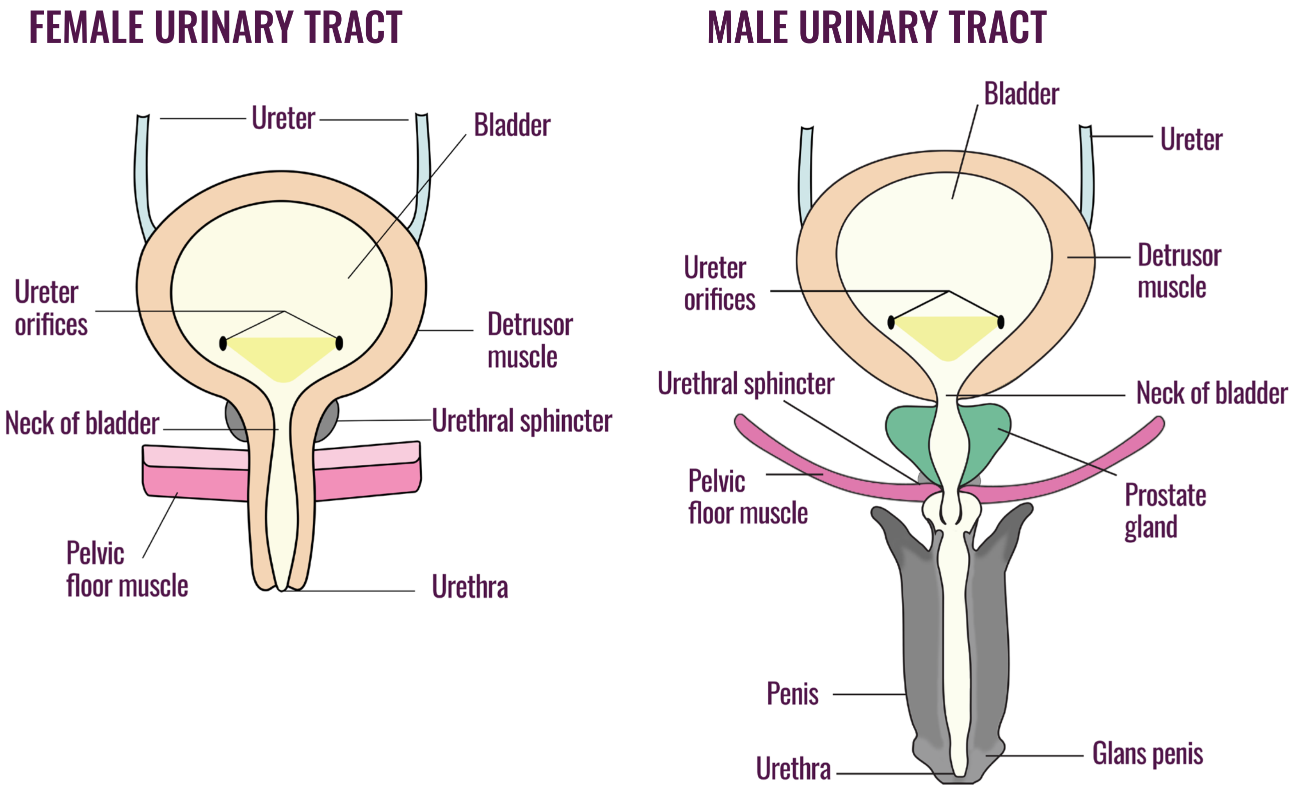
Stress Fecal Incontinence is defined as a “complaint of involuntary loss of feces on effort or physical exertion including sporting activities, or on sneezing or coughing” (D’Ancona et al., 2019).

Passive (Insensible) Fecal Incontinence is defined as a “complaint of involuntary soiling of liquid or solid stool without sensation or warning” (D’Ancona et al., 2019).

Understanding the Pathway of Urination

Most people have two kidneys and one of their main functions is to remove waste products from the body. Our urinary system, which includes our kidneys, ureters, bladder and urethra, works together to filter blood and create urine. The two ureters are tubes that carry urine from the kidneys to the bladder. The bladder, a hollow organ in the lower abdomen, stores urine by relaxing and expanding and then empties urine by contracting. A healthy adult bladder is able to store up to two cups of urine for around two to five hours. Circular muscles called sphincter muscles keep the urine from leaking out of the bladder. Nerves in the bladder tell the brain when it is time to urinate and allow the sphincter muscles to relax to allow the urine to exit through the urethra (Johns Hopkins Medicine, n.d.).

Figure 1: Visualization of Male and Female Urinary Tracts (From The Canadian Continence Foundation, n.d.d)

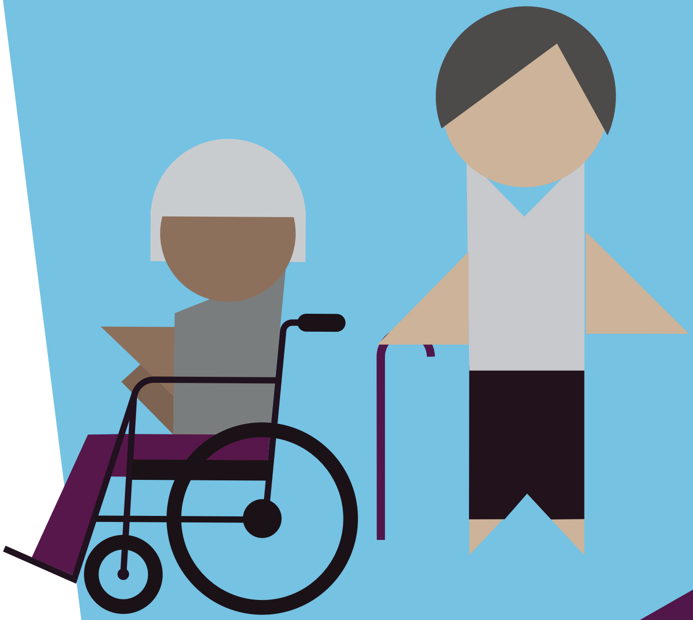


FEMALE URINARY TRACT

MALE URINARY TRACT

Understanding the Pathway of Defecation

Defecation is the end process of digestion. At the end of the digestive tract is the large intestine, or colon, which is responsible for absorbing water from the waste within the intestine to form stool. The muscles in the wall of the colon help separate the waste into segments that are moved into the lower colon and then to the rectum. As the walls in the rectum stretch, nerves within the rectum walls tell the brain there is a need to defecate, and allow the sphincter muscles to relax. The rectal walls then contract, which increases pressure to evacuate the stool in the rectum (Mayo Clinic, 2020).



Who Suffers from Incontinence?

There are varying estimates of the prevalence of incontinence both in Canada and worldwide. Available estimates differ based on the population being studied and the research methods being used (Cameron Institute, 2014a). It is also well-known that UI and FI rates remain largely under-reported due to stigma, as well as the belief that it is a normal part of ageing and not something that needs to be reported to health-care professionals (Cameron Institute, 2014a; Wagg et al., 2023b).

Worldwide Estimates of Urinary and Fecal Incontinence

Urinary Incontinence

As global life expectancy continues to increase, so will the number of people living with UI. While incontinence is not a normal part of ageing, incidence does increase with age. With the global population of people aged 65 years and older expected to rise from 703 million to 1.5 billion by 2050 (UN DESA, 2019), the overall number of people living with incontinence is also expected to increase significantly.

Estimates suggest that in 2018, 8.5 per cent of the world's population aged 20 years and older was living with UI (Irwin et al., 2011).

Based on these estimates, Milsom & Gyhagen (2018) note that if UI were a country, the estimated global population (over age 20) living with UI would make it the third largest country in the world, with more than 420 million people (Irwin et al., 2011).

Fecal Incontinence

A large study of approximately 15,000 people in the U.S. National Health and Nutrition Examination Survey found that the prevalence of FI among adults aged 20 years and older living in the community is around 8.4 per cent (Ditah et al., 2014). This data shows that similar to UI, FI incidence also increases with age.

The study found that approximately 3 per cent of those aged 20-29 years and around 16 per cent of those aged 70 years and older have FI (Ditah et al., 2014). Wagg et al. (2023b) found that FI affects approximately 20 per cent of adults aged 65 years and older living in the community (including those living in congregate living settings) and about 50 per cent of those living in nursing homes. Frail older people are disproportionately affected by FI, with the prevalence being higher in acute hospitals and nursing homes, when compared to the community (Wagg et al., 2023b).

Dual Incontinence

Among older adults and those living in nursing homes, FI tends to increasingly co-exist with UI — known as dual incontinence (Wagg et al., 2023b). A study from the U.S. of around 7,000 men and women aged 50 years and older living in the community found that UI and dual incontinence were more common among women than men, but the prevalence of FI was approximately the same in men and women (Wu et al., 2015). Another U.S. study found that 10.6 per cent of those living in the community reported dual incontinence (Gorina et al., 2014).

Explaining the Wide Variation in Reported UI Rates

One of the reasons for the large variance in reported prevalence rates of UI is that different definitions and methods of measurement have been employed over time (Milsom et al., 2023). In addition, studies have looked at differing severity levels of UI and applied different time frames for defining UI (Milsom et al., 2023).

Definition of Frailty

The International Consultation on Incontinence defined "frail older adults" as "those over the age of 65 with a clinical presentation or phenotype combining impaired physical activity, mobility, balance, muscle strength, motor processing, cognition, nutrition, and endurance (including feelings of fatigue and exhaustion)" (Wagg et al., 2023b).

Differences Between Men and Women

Milsom et al. (2023) note that UI among men has not been studied to the same extent that it has been for women. As with most data on UI, there are large variations in reported prevalence rates. For men, studies have found that the most common form of UI is urgency UI, followed by mixed UI and stress UI (Milsom et al., 2023). In women, the most common form of UI is stress UI, followed by mixed UI and urgency UI (Milsom et al., 2023). FI prevalence in frail older men is reported to be equal to or greater than it is among frail older women living in the community and in nursing home settings (Wagg et al., 2023b).

Data on UI are typically self-reported, with widespread underreporting of the condition (Milsom et al., 2023). This means that incontinence data largely relies on surveys, which often yield low response rates (Milsom et al., 2023). Nevertheless, there has been some progress in definitional consistency, with the ICS adopting its new definition of UI as "the complaint of any involuntary leakage of urine" in 2001. This step has helped to make research around UI more easier (Milsom et al., 2023).

Stress UI is the most commonly reported type of UI, with a reported prevalence of 10 to 39 per cent, accounting for approximately half of all incontinence experienced by women (Milsom et al., 2023). Generally, the second most commonly reported form for women is mixed UI, with a reported prevalence ranging between 7.5 and 25 per cent (Milsom et al., 2023). Urgency UI is less common, with a reported prevalence of 1 to 7 per cent (Milsom et al., 2023). However, overactive bladder (OAB) may be a precursor to urgency UI (Milsom et al., 2023). Other causes of UI occur at a prevalence of 0.5 to 1 per cent (Milsom et al., 2023). Occasional leakage is more commonly reported, with 25 to 45 per cent of all adult women reporting this condition and approximately 10 per cent reporting weekly leakage (Milsom et al., 2023).

Canadian Estimates of UI and FI

A nationally representative epidemiological survey recently found that approximately 24 per cent of Canadian adults were living with urinary incontinence (UI) (Shaw et al., 2020). The average prevalence of FI among those living in the community is estimated to be around 5 per cent (Rizk, 2010), while it is estimated to be much higher among those in congregate living settings (Rizk, 2010; CIHI, 2013).

Community-Dwelling Older Adults

Statistics Canada (2015) estimated that in 2008-09, approximately 12 per cent of Canadians aged 65 years and older reported living with UI. Data again shows that reported rates increase with age.

Table 1: Comparison of Older Canadian Women and Men Experiencing All Types of UI

	Ages 65-74 (%)	Ages 75-84 (%)	Ages 85 and older (%)
Women	9.8	16.6	22.3
Men	6.4	11.6	18.7

(Statistics Canada, 2015)

A total of 8.2 per cent of Canadians aged 65-74 years reported experiencing urinary incontinence, as did 14.4 per cent of those aged 75-84 years, and 21 per cent of those aged 85 years and older (Statistics Canada, 2015). UI is more common in women but many older Canadian men experience it as well.

Those Living in Nursing Homes

The Canadian Institute for Health Information (CIHI) (2013) found that approximately 70 per cent of nursing home residents in Canada experienced UI and approximately half (49 per cent) experienced FI. The Ontario Long-Term Care Association (OLTCA) also found that, as of 2015-16, around three-quarters (76.2 per cent) of residents in Ontario nursing homes experience UI. This marks an increase from a prevalence of 69.5 per cent in 2009-10 (OLTCA, 2016). It also found that 55.7 per cent of Ontario nursing home residents in 2015-16 were experiencing FI, an increase from 50.7 per cent in 2009-10 (OLTCA, 2016). This represents a change to the profile of residents who are being admitted to long-term care, with more residents coming to long-term care with a further progression of disease and when their needs are higher (OLTCA, 2016).

The incidence of FI is commonly associated with living in a nursing home, which may be partly explained by the fact that incontinence is one of the common triggers for admission to long-term care (Milsom et al., 2023). CIHI also found that more than 85 per cent of older adults living with dementia in Canadian nursing homes experienced at least one type of incontinence, compared to 57 per cent of older adults with dementia receiving home care (CIHI, 2010).

One study looking at common burdensome symptoms among those living in nursing homes in Alberta, Manitoba and Saskatchewan found that the three most prevalent symptoms were UI (79.7 per cent), FI (66.7 per cent) and challenging behaviours (63 per cent) (Hoben et al., 2016). It is interesting to note that while the most commonly reported challenge for those in nursing homes is behavioural issues, both UI and FI are more prevalent, equally burdensome and perhaps more costly to deal with overall.

Risk Factors for UI and FI

Age

As age increases, so does the prevalence of UI. However, there appears to be a steeper increase in the reported prevalence among men at advanced ages (Milsom et al., 2023). Some studies looking at risk factors for men found that in addition to age, depression, hypertension and prostate enlargement are also associated with UI (Markland et al., 2010). Similarly, increasing age is a strong risk factor for FI, which tends to co-exist with UI in frail older populations (Wagg et al., 2023b).

Other factors that make incontinence more prevalent among older adults include changes in bladder/bowel function (e.g. constipation), physical conditions (e.g. arthritis and its effect on mobility/dexterity), certain medical conditions (e.g. heart failure or diabetes), neurological conditions (e.g. Parkinson’s Disease, Alzheimer’s disease and other related dementias), and certain medications that can worsen incontinence (Yates, 2018).

Below is a table that outlines some potentially reversible causes of UI in older adults that should be considered and addressed.

Health care professionals should be assessing the person affected by incontinence for the causes in Table 2. Delirium is an acute confusional state that can lead to inattentiveness and disorientation (Salvatore et al., 2017). Other key factors to look at are whether there are any infections present and all the current medications that people are taking should be examined (Salvatore et al., 2017; Wagg et al., 2023b). Another consideration should be whether there is associated social isolation, loneliness, stigma and depression. In addition, asking

Table 2: Potentially Reversible Causes of UI

The mnemonic DIPPERS can be used to identify potentially reversible causes associated with UI in frail older adults.

Delirium
Infection
Pharmaceuticals
Psychological
Excess fluid (in/out)
Restricted mobility
Stool Impaction

(Wagg et al., 2023a)

about bowel and bladder functioning and the physical capabilities of the person to move freely (Salvatore et al., 2017; Wagg et al., 2023b).

One U.S. study looking at those receiving care in acute-care settings found that 20 per cent were experiencing FI, with the prevalence of FI increasing by 1.7 per cent per year of age (Stokes et al., 2016). Furthermore, almost half of the patients living with FI were found to be taking a medication that listed diarrhea or FI as a side effect (Stokes et al., 2016). It was also found that those receiving care in a critical-care unit were more likely to have FI than those receiving care in regular inpatient units (Stokes et al., 2016).

Incontinence is an issue for many in acute or subacute care. One Australian study reported 22 per cent of hospitalized patients studied as having UI and 10 per cent as having FI (Ostaszkiewicz, O’Connell, & Millar, 2008). Around 34 per cent of patients reported having problems with their bladder at home and 26 per cent reported having a bowel problem at home (Ostaszkiewicz et al., 2008). Incontinence is commonly experienced in the community and admission to hospital for an acute illness can make it more difficult to manage those patients’ incontinence symptoms (Ostaszkiewicz et al., 2008). Data from this study showed that products (e.g. pads, washable bed protection, catheters) are often overused or inappropriately used. This shows that more direction is needed on when and how to use these products (Ostaszkiweicz et al., 2008). It was also found that incontinence is not well documented in patient notes, which indicates a lack of attention to incontinence when older adults are being admitted (Ostaszkiewicz et al., 2008).

In this study, mobility and pre-existing bladder problems were found to be significantly associated with the presence of UI (Ostaszkiewicz et al., 2008). Those who required assistance from another person, and those who were not mobile, were more likely to experience UI and FI, when compared to those who could move around independently or with an aid (Ostaszkiewicz et al., 2008).

Delirium and other changes in cognitive function, which are commonly experienced in acute-care settings, may also be risk factors for FI. Those experiencing changes in cognitive function may not be able to recognize the need to defecate (Salvatore et al., 2017). These altered mental states can be due to illness, hospitalization, surgery or medications (i.e. opiates or sedatives) (Salvatore et al., 2017). If the urge to defecate is ignored, and if that is combined with the effect of medications, it may lead to fecal impaction (i.e. stool that will not pass) that can then lead to fecal incontinence (Salvatore et al., 2017).

Even though individuals with dementia in acute wards were found to be routinely provided with continence pads, as noted above, these products appear to be overused as it is given regardless of continence status (Northcott et al., 2022). The main factors influencing such practice are organizational pressures to provide a certain level of care, culture of containment and taking a risk averse approach (Northcott et al., 2022).

Vaginal Births

Vaginal delivery is associated with increased rates of UI compared to caesarean section (C-section) delivery (Finazzi Agrò et al., 2023). Women who have had vaginal deliveries have almost double the risk of developing stress UI compared to those who have had a C-section (Tahtinen et al., 2016). Twenty years after giving birth once, it was found that stress, urgency and mixed UI were higher among those who had a vaginal birth than those who had a C-section. Moderate to severe UI, or bothersome UI, were also reported more frequently by those who gave birth vaginally (Gyhagen et al., 2013). Two decades after having one birth, those who delivered vaginally were at a 67 per cent greater risk of UI, compared to those who gave birth through C-section; after 10 years, their risk of UI was 275 per cent higher (Gyhagen et al., 2012) Other factors related to childbirth that may affect the future likelihood of UI include induced labour, the use of forceps during delivery and the use of episiotomies[1] (Milsom et al., 2023). All of these interventions can damage the pelvic floor muscles, which hold the urinary system components in place. For example, the rate of obstetric anal sphincter injury (deep tear in the area between the vagina and the anus) after forceps delivery at first vaginal birth was 24.3% in Canada in 2016 (Gyhagen et al., 2021).

Prostatectomies

Prostatectomies can also contribute to UI in men. These are surgeries “to remove part or all of the prostate and some of the tissue around it” (National Cancer Institute, n.d.). These procedures are performed to treat individuals with benign prostatic hyperplasia or prostate cancer (John Hopkins Medicine, 2023). However, it may cause damage to certain parts of the male anatomy, including the sphincter, which can result in UI (National Association for Continence, 2022). Specifically, with radical prostatectomies, studies have shown the prevalence of UI post procedure can range from 2% to nearly 60% (Milsom et al., 2023).

Lifestyle Factors

While the impact of smoking on incontinence has not been conclusively determined, in studies that have shown an association show that former smokers have a higher risk for UI than people who have never smoked and a lower risk than current smokers (Milsom et al., 2023). Smokers are also more likely to develop overactive bladder compared to non-smokers. This may be due to nicotine’s effect on the bladder wall muscles (Wagg & Cahill, 2018). The Canadian Urological Association (Bettez et al., 2012) recommends smoking cessation for urgency UI and stress UI, in order to reduce chronic coughing, which may put pressure on the pelvic floor muscles. Smoking cessation is, regardless, recommended to promote overall good health and reduce risk factors for other conditions.

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[1] “An episiotomy is a cut made between the vagina and the anus to help with childbirth or prevent the tearing of muscles and skin (Healthwise Staff, 2021).

Certain beverages including coffee, tea, alcohol and carbonated beverages have sometimes been considered to have an impact on UI, but there are inconsistent findings (Milsom et al., 2023). For men, some recent reports have shown that an increased risk of UI is associated with alcohol consumption (Milsom et al., 2023). The findings for lifestyle factors, however, are not conclusively determined across all studies.

Milsom et al. (2023) note that obesity is a well-defined risk factor for UI among women. In particular, women who are considered obese have around double the risk of developing UI (Milsom et al., 2023). In a study of approximately 4,500 Canadian women, it was found that incontinence diagnoses were significantly associated with a high body mass index (BMI) (Shaw et al., 2019). Weight loss has been shown to be effective at reducing UI symptoms among overweight and obese women (Subak et al., 2009; Wing et al., 2010). As current BMI is considered to be a significant determinant for UI, weight control is noted as an important preventative measure to reduce risk (Gyhagen, 2013). The association between exercise and UI is complex, with longitudinal studies suggesting a protective effect, despite the potential influence of an effect on body weight (Milsom et al., 2023).

Medical Conditions

Comorbid conditions may cause or contribute to UI in frail older adults, including diabetes, degenerative joint disease, chronic pulmonary disease, congestive heart failure, sleep apnea and severe constipation (Wagg et al., 2023b). When diabetes is poorly controlled it can lead to excess urination, which can then cause incontinence or make it worse (Wagg et al., 2023b). Degenerative joint disease can impair mobility, which can worsen urge UI (Wagg et al., 2023b). The chronic cough that is often associated with chronic pulmonary disease can worsen stress UI (Wagg et al., 2023b). Congestive heart failure can cause the body to make more urine overnight, which can lead to nocturia and UI (Wagg et al., 2023b). Severe constipation or fecal impaction has been linked to an increased risk of both UI and FI (Wagg et al., 2023b).

There are also neurological conditions that contribute to or cause UI, including stroke, Parkinson’s disease, hydrocephalus, dementia and depression (Wagg et al., 2023b). Cognitive impairment can affect an individual’s ability to follow and understand prompts or cues, interact with others, complete self-care tasks and maintain social awareness, all of which can affect an individual’s continence (Skelly, 2019). Neurological diseases, dementia, diabetes, chronic medical conditions and depression are all risk factors for FI as well (Wagg et al., 2023b).

One study (Scime et al., 2022) using data from the Canadian Community Health Survey (CCHS) (all data for female aged 25 years and older) found that those living with chronic conditions were more than twice as likely to experience comorbid UI. This study showed strong associations between UI and bowel disorders (i.e. IBD); moderate associations with respiratory conditions (i.e. COPD and asthma), cardiovascular disease and arthritis; and a weaker association with diabetes (Scime et al., 2022).

Unique Risk Factors for Fecal Incontinence

One study in Norway found significant association between FI and nursing home residents who had trouble eating, dressing, moving or using the toilet independently (Saga et al., 2013). It found that residents living in nursing homes with UI had 2.77 times higher odds of having FI (Saga et al., 2013). Risk factors for FI also include stool consistency, specifically when having loose stool or diarrhea (Ditah et al., 2014; Finazzi Agrò et al., 2023). Those living with dementia or cognitive impairment were 2.17 times more likely to have FI, when compared to residents without cognitive issues (Saga et al., 2013). Bowel control requires the cognitive ability to know that toileting needs to occur and the physical ability to do so (Saga et al., 2013). For those living in the community, FI was also found to be associated with diabetes, urinary incontinence and living with multiple chronic conditions (Ditah et al., 2014).

Medications

Many classes of medications commonly used by older adults can cause or contribute to UI — for example, medications taken to control high blood pressure (Wagg et al., 2017). One study of individuals living with incontinence in Quebec found 60.5 per cent were using medications that could be contributing to UI, with the average patient using

Table 3: Medications with an effect on UI in frail older adults

Type of Medication	Mechanism
Diuretics Lithium	Polyuria
Nonsteroidal anti-inflammatory drugs Certain calcium channel blockers (i.e., nifedipine XL) Certain oral hypoglycemics (glitazones)	Pedal edema/fluid retention that redistributes and causes nocturnal diuresis
Alpha adrenergic agonists	Increased urethral sphincter tone/obstruction retention (especially in men with prostate disease)
Alpha adrenergic antagonists (antihypertensive agents)	Decreased urethral sphincter tone
Anticholinergic: tricyclic antidepressants, antihistamines, antiparkinsonian agents, opioid analgesics	Impaired bladder emptying, retention, overflow, incontinence
Cholinesterase inhibitors	Increased bladder contractility
Benzodiazepines and other hypnotics Narcotics and some other pain medications Antipsychotics	Altered sensorium, psychomotor slowing, mobility impairment
Angiotensin converting enzyme inhibitors	Cough
Estrogens	Unknown

Adapted with permission from C. Tannenbaum one of these medications (Kashyap et al., 2013). Individuals taking five or more drugs were almost five times more likely to be taking a medication that may contribute to urinary symptoms (Kashyap et al., 2013). One example is diuretics, which can cause excess fluid output that can worsen UI (Wagg et al., 2023b). Another is angiotensin-converting enzyme (ACE) inhibitors, which can cause coughing that can exacerbate stress UI (Kashyap et al., 2013; Wagg et al., 2023b). Similarly, certain medications can cause or exacerbate FI in older populations, including opiates or sedatives (Wagg et al., 2017).

In one U.S. study of those in acute care settings, medications were the factor most strongly associated with FI, with just under 50 per cent reporting taking medications that listed diarrhea or FI as potential side effects (Stokes et al., 2016). It was also found that the two most common combinations of risk factors are medications and neurologic diseases, followed by medications and gut motility disorders (e.g. inflammatory bowel disease, irritable bowel disease, etc.) (Stokes et al., 2016). Table 3 above shows the effects on continence that are associated with a variety of commonly prescribed medications.

Environmental Factors

Environmental factors in organizational settings (e.g., hospitals, nursing homes) can contribute to or exacerbate UI or FI include a lack of safe, accessible toilets or a lack of assistance with toileting (availability of someone to encourage the client to void) (Wagg et al., 2023b). Frail older adults in particular require accessible and safe toilets, and may require someone to assist them, but often have limited access to staff or other people who can help (Wagg et al., 2023b). Privacy is also important because without it, some people may choose to hold or defer their opportunity to void or defecate (Wagg et al., 2023b). A lack of privacy is also considered to be undignified care (Wagg et al., 2023b).

> Access to public toilets is an important factor in incontinence. For those living with incontinence, the fear of being unable to find a toilet when they need one can inhibit them from leaving the house, which can lead to increased self-isolation.

Accessibility factors include the hours that public toilets are in operation and whether they are accessible for those with varying abilities (Scoular, 2019). In recent years, there have been news reports of privately owned businesses, such as coffee shops or fast food restaurants, denying access to toilets to non-customers, leading to extreme reactions, including a woman being denied a washroom and then defecating and throwing excrement (Scoular, 2019). This further reinforces that private bathrooms are not a reliable option (Scoular, 2019).

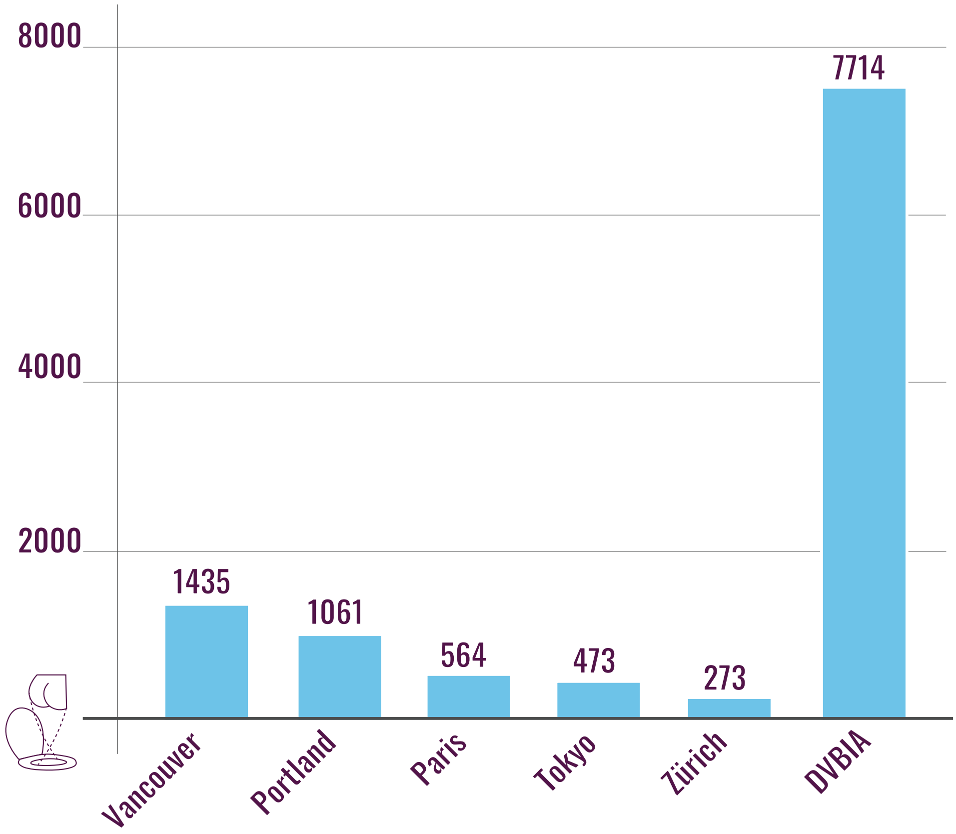
In order to encourage the use of public toilets, they need to be kept clean and well maintained. They also need to be sufficiently illuminated, ventilated, highly visible (including from the street), have good signage, be accessible for all physical abilities and be gender inclusive (Scoular, 2019; WHO, 2007). The World Health Organization (WHO) (2007) has also noted public toilet accessibility can be improved with doors that are easy to open and lock, as well as toilets that are designed for universal use.

Scoular (2019) examined the availability of public toilets across multiple jurisdictions around the world. Figure 2 below by Scoular (2019) illustrates the ratio of the number of public toilets per capita across five global cities. This comparison illustrates her finding that the population density of Vancouver, B.C., greatly outstrips the number of public toilets available in the city, especially when looking at four comparable global cities that offer higher “butt-to-seat ratios,” or public toilets per capita.

A report from the United Kingdom further notes that the lack of public toilet access disproportionately affects those living with poor health or disabilities, older adults, women, outdoor workers and people experiencing homelessness (Royal Society for Public Health [RSPH], 2019). More than half (56 per cent) of the people surveyed reported restricting their fluid intake, either occasionally or frequently,

Figure 2: Butt to Seat Ratios Across 5 Global Cities

*DVBIA = Downtown Vancouver Business Improvement Association



(Figure from Emily Scoular, 2019)

and another 20 per cent reported not going out as often they wanted to because they were worried about not being able to find a toilet (RSPH, 2019). Approximately 75 per cent of people surveyed said there were not enough public toilets available, with more people reporting this view as their age increased (RSPH, 2019).

As mentioned above, public toilets need to be properly maintained. This report noted that the public would not use toilets that were unclean, had a bad smell or were missing toilet paper (which was more likely to be reported by women) (RSPH, 2019). It also noted that women need additional time in the washroom due to the differences in their anatomy, as well as the clothing they wear and the fact that many experience menstruation. As a result, it would be more equitable to have a ratio of 2:1 for public toilet access for women compared to men (RSPH, 2019). However, it has been found that current standards fail to provide equal access for washroom facilities to women, who have also perceived longer lines (Camenga et al., 2019; Woonghee et al., 2019). For males, there has been a recent focus on the lack of sanitary bins within washrooms (BBC, 2023; Inada & Bureau, 2022/2022).

Another study in Ottawa, Ont., found that 86 per cent of people interviewed said the city does not have enough public toilets (Canham, 2014). As with the RSPH study, respondents noted that maintenance and cleanliness could be barriers to using public toilets, and that limited access to public toilets keeps people from leaving their homes and exercising, or causes them to limit their fluid intake (Canham, 2014). There were also concerns about accessibility, with reports that even some toilets that were marked as accessible still had flaws (Canham, 2014). Signage was noted as a particularly important issue. Respondents noted often having to ask for directions to a toilet because there were no signs visible or they were difficult to find (Canham, 2014). Other issues include limited hours of operation and the lack of public toilets in or near public transit facilities. This sometimes meant people had to exit public transit to use an external toilet, then pay again to get back on (Canham, 2014).

While Paris has approximately 400 self-cleaning public toilets, a 2017 article in the Montreal Gazette discussed some of the difficulties that have arisen in large North American cities when attempting to improve public toilet access (Bruemmer, 2017). For example, Seattle spent $5 million on self-cleaning toilets in 2003, but they all had to be closed within five years due to the city’s inability to maintain them, ongoing cleanliness issues and their inappropriate usage for drugs and other illegal activities (Bruemmer, 2017). In New York, a contract was signed in 2005 to install 20 automated toilets, but after 10 years, only five were actually opened (Bruemmer, 2017). In 2007, Toronto also signed a contract to install 20 publicly accessible toilets, but after six years only three had been installed, with two having to close due to cold weather issues (Bruemmer, 2017). Montreal, similarly, wanted to install 12 self-cleaning toilets, but there were concerns about the company that received the contract, so progress around their installation has stalled (Bruemmer, 2017).

Highlight on The Portland Loo

The Portland Loo was developed by Madden Fabrication in collaboration with the City of Portland, Ore. These are free, stand-alone toilets, which are accessible at all times. They are constructed with features that prevent common problems with public toilets, including graffiti-proof wall panels and open grating. They are easy to clean, use common components that can be easily replaced, and operate on solar power or low-level volt power. They use angled louvers to limit privacy as a way to address drug use, and blue interior lighting to prevent drug users from being able to locate a vein. They have an open bottom and top to reduce privacy and allow more lines of sight and better projection of sounds outside (The Portland Loo, n.d.).

The Portland Loo has been expanded to numerous cities around the world. Four of these single-use public toilets were approved to be added to Vancouver parks, at a cost of $150,000 per unit, not including labour, landscaping, concrete and utility connections. The exterior of each of the structures also includes a hand-washing station. These are being piloted and if successful, could be installed in additional locations around the city (Chan, 2021). Other cities that have piloted or are considering installing Portland Loos include Astoria, Ore., (Stratton, 2021), Lewiston, Maine, (Rice, 2021) and Charleston, S.C. (Benson, 2021).

During the peaks of the COVID-19 pandemic, many publicly accessible bathrooms were closed, including those in libraries, malls, restaurants, cafes and outdoor facilities (Lowe, 2020). Canadian cities such as Halifax, Edmonton and Toronto closed public toilets — toilets that are located on the street, funded by taxpayers and which should be open to everyone (Lowe, 2020). Durham region opened some community centres and offered portable facilities with toilets and showers (Peters, 2020). Montreal and Toronto made efforts to improve access by installing portable toilets and hand-washing stations for those experiencing homelessness. However, this was not enough to make up for the total number that were closed (Lowe, 2020). It was not until May 18, 2020, that Ontario amended its COVID-19 emergency orders to mention washrooms and make it clear that they could be open (Peters, 2020). It is too soon to tell what additional impact this has had on UI and FI, in addition to the obvious impact of the pandemic itself. These closures highlighted Canadians’ reliance on “publicly accessible” toilets that are privately owned, such as those in restaurants, which may only be open to customers (Lowe, 2020). This reliance on private washroom creates an opportunity for discrimination and creates barriers for vulnerable populations (Peters, 2020).

How is Incontinence Currently Managed?

Assessment and Screening

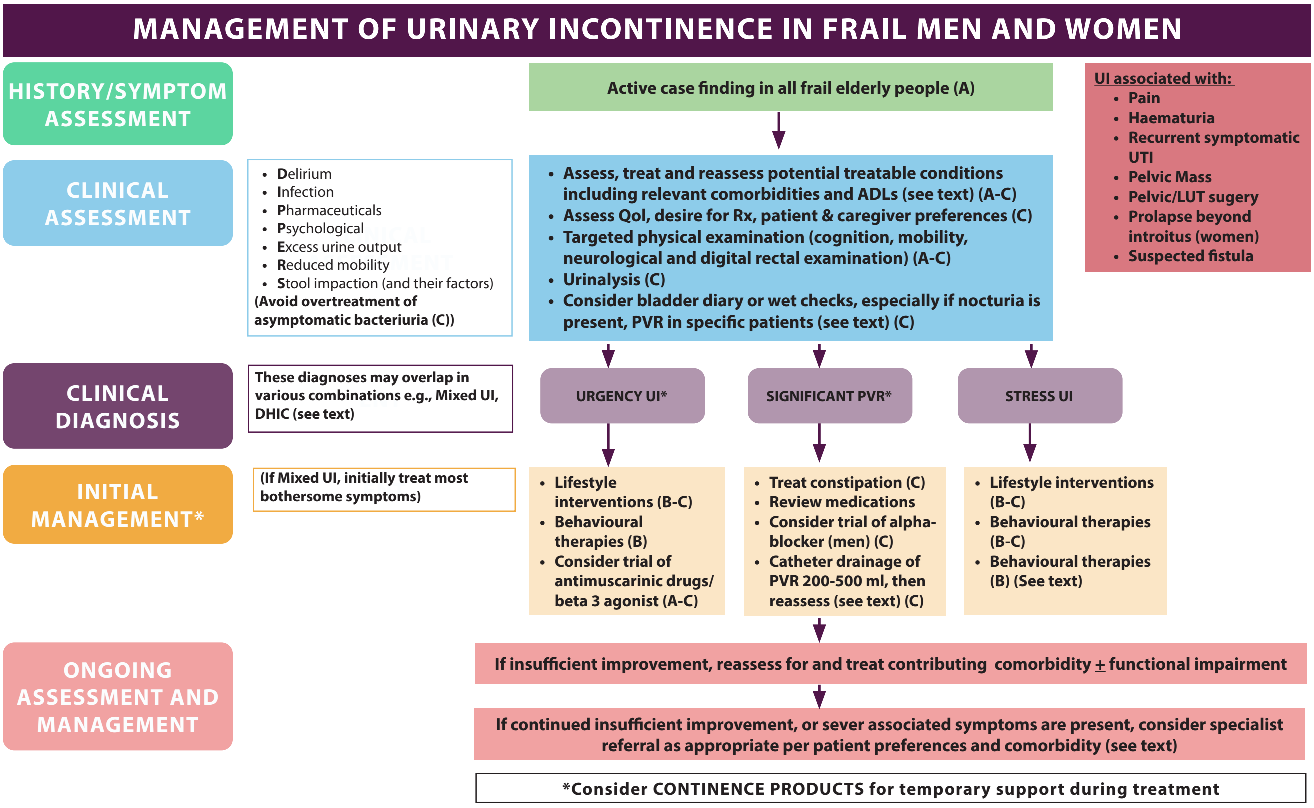
It is important to proactively ask older adults about incontinence, as the prevalence of incontinence increases with age and many will not report their symptoms because they assume the condition is a normal part of ageing (Abrams et al., 2018; Shaw et al., 2019). In general, the recommended tests for initial evaluation by a healthcare professional include a general assessment (review of symptoms, medical history, social history and patient-related factors), physical examination and urinalysis (Wagg et al., 2023a).

The Women’s Preventive Services Initiative (WPSI) (O’Reilly et al., 2018), “a national coalition of women’s health professional organizations and patient representatives” from across the U.S., recommends that all women of any age be screened annually for UI. While the number of times a woman has given birth, her age and obesity are risk factors for UI, the report recommends that screenings should not be limited by these factors (O’Reilly et al., 2018). In addition, the screenings should not only help determine if a woman is experiencing UI, but also capture and understand the effect it has on her daily activities and quality of life (O’Reilly et al., 2018). Women should be sent for further evaluation and treatment when necessary (O’Reilly et al., 2018).

Specific Management of Incontinence in Frail Older Adults

As seen in Figures 3 and 4, the first step to address incontinence involves actively looking for cases in the older population (Wagg et al., 2023a). For those who are diagnosed with incontinence, treatment should be based on the individual’s treatment preferences, care goals and estimated life expectancy (Wagg et al., 2023a).

Figure 3: UI Management Algorithm in Frail Older Men and Women



MANAGEMENT OF URINARY INCONTINENCE IN FRAIL MEN AND WOMEN

HISTORY/SYMPTOM ASSESSMENT

Active case finding in all frail elderly people (A)

UI associated with:
- Pain
- Haematuria
- Recurrent symptomatic UTI
- Pelvic Mass
- Pelvic/LUT sugery
- Prolapse beyond introitus (women)
- Suspected fistula

CLINICAL ASSESSMENT

- Delirium
- Infection
- Pharmaceuticals
- Psychological
- Excess urine output
- Reduced mobility
- Stool impaction (and their factors)

(Avoid overtreatment of asymptomatic bacteriuria (C))

- Assess, treat and reassess potential treatable conditions including relevant comorbidities and ADLs (see text) (A-C)
- Assess Qol, desire for Rx, patient & caregiver preferences (C)
- Targeted physical examination (cognition, mobility, neurological and digital rectal examination) (A-C)
- Urinalysis (C)
- Consider bladder diary or wet checks, especially if nocturia is present, PVR in specific patients (see text) (C)

CLINICAL DIAGNOSIS

These diagnoses may overlap in various combinations e.g., Mixed UI, DHIC (see text)

URGENCY UI* | SIGNIFICANT PVR* | STRESS UI

INITIAL MANAGEMENT*

(If Mixed UI, initially treat most bothersome symptoms)

Urgency UI*:
- Lifestyle interventions (B-C)
- Behavioural therapies (B)
- Consider trial of antimuscarinic drugs/ beta 3 agonist (A-C)

Significant PVR*:
- Treat constipation (C)
- Review medications
- Consider trial of alpha-blocker (men) (C)
- Catheter drainage of PVR 200-500 ml, then reassess (see text) (C)

Stress UI:
- Lifestyle interventions (B-C)
- Behavioural therapies (B-C)
- Behavioural therapies (B) (See text)

ONGOING ASSESSMENT AND MANAGEMENT

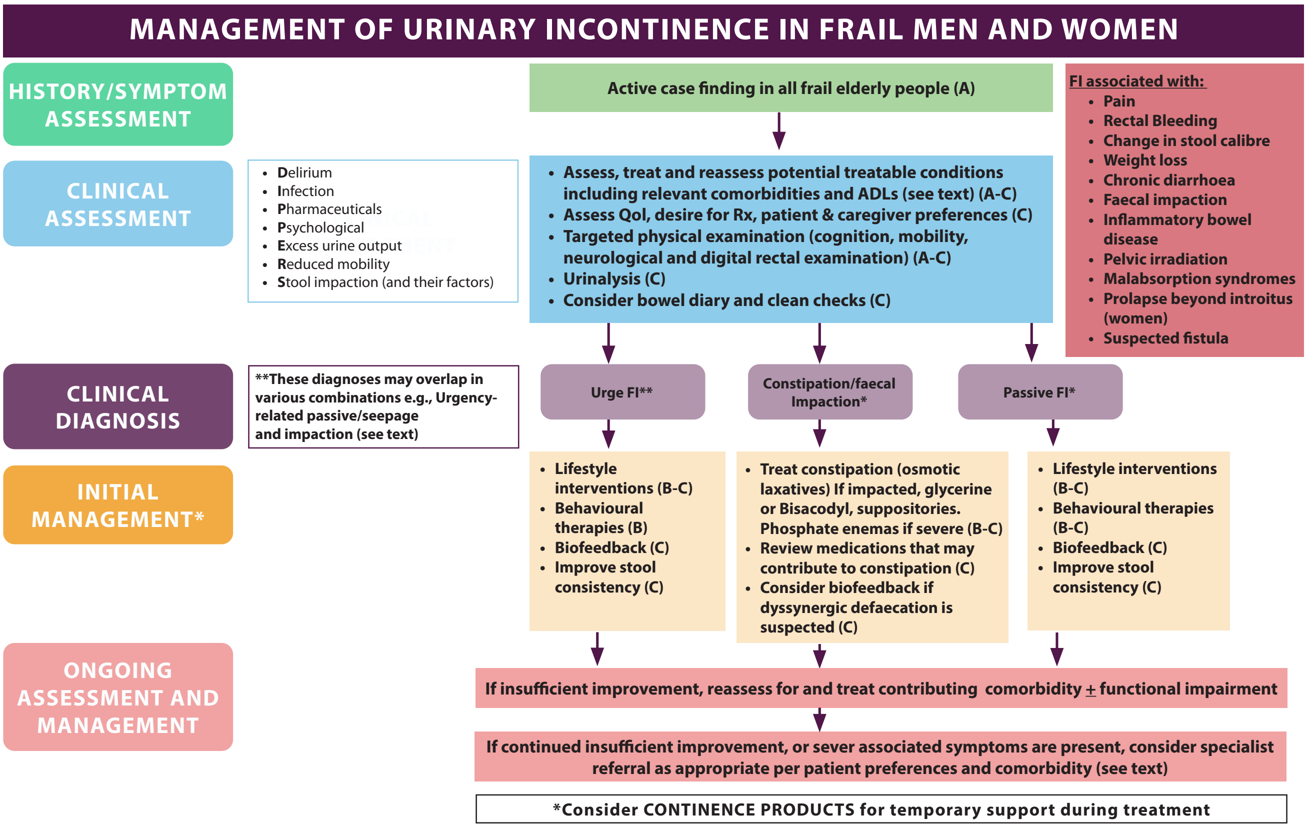
If insufficient improvement, reassess for and treat contributing comorbidity ± functional impairment

If continued insufficient improvement, or sever associated symptoms are present, consider specialist referral as appropriate per patient preferences and comorbidity (see text)

*Consider CONTINENCE PRODUCTS for temporary support during treatment

(Wagg et al., 2023a)

Figure 4: FI Management Algorithm in Frail Older Men and Women



MANAGEMENT OF URINARY INCONTINENCE IN FRAIL MEN AND WOMEN

HISTORY/SYMPTOM ASSESSMENT

Active case finding in all frail elderly people (A)

FI associated with:
- Pain
- Rectal Bleeding
- Change in stool calibre
- Weight loss
- Chronic diarrhoea
- Faecal impaction
- Inflammatory bowel disease
- Pelvic irradiation
- Malabsorption syndromes
- Prolapse beyond introitus (women)
- Suspected fistula

CLINICAL ASSESSMENT

- Delirium
- Infection
- Pharmaceuticals
- Psychological
- Excess urine output
- Reduced mobility
- Stool impaction (and their factors)

- Assess, treat and reassess potential treatable conditions including relevant comorbidities and ADLs (see text) (A-C)
- Assess Qol, desire for Rx, patient & caregiver preferences (C)
- Targeted physical examination (cognition, mobility, neurological and digital rectal examination) (A-C)
- Urinalysis (C)
- Consider bowel diary and clean checks (C)

CLINICAL DIAGNOSIS

**These diagnoses may overlap in various combinations e.g., Urgency-related passive/seepage and impaction (see text)

Urge FI** | Constipation/faecal Impaction* | Passive FI*

INITIAL MANAGEMENT*

Urge FI**:
- Lifestyle interventions (B-C)
- Behavioural therapies (B)
- Biofeedback (C)
- Improve stool consistency (C)

Constipation/faecal Impaction*:
- Treat constipation (osmotic laxatives) If impacted, glycerine or Bisacodyl, suppositories. Phosphate enemas if severe (B-C)
- Review medications that may contribute to constipation (C)
- Consider biofeedback if dyssynergic defaecation is suspected (C)

Passive FI*:
- Lifestyle interventions (B-C)
- Behavioural therapies (B-C)
- Biofeedback (C)
- Improve stool consistency (C)

ONGOING ASSESSMENT AND MANAGEMENT

If insufficient improvement, reassess for and treat contributing comorbidity ± functional impairment

If continued insufficient improvement, or sever associated symptoms are present, consider specialist referral as appropriate per patient preferences and comorbidity (see text)

*Consider CONTINENCE PRODUCTS for temporary support during treatment

(Wagg et al., 2023a)

Beyond medical treatments, various types of conservative therapies (non-medical and non-surgical treatments) can be considered for people with UI, depending on cognitive and physical abilities (Wagg et al., 2023a). These include, lifestyle changes, bladder training, prompted voiding[2] (see page 32 for additional details) and pelvic floor muscle therapy (Wagg et al., 2023a). Continence products may be considered temporarily, for example those who wait for their surgery or training to improve their symptoms (Fader et al., 2023). In certain cases, products may be necessary on a permanent basis (Fader et al., 2023; Wagg et al., 2023a).

Health care providers — including those working in primary care, hospital, home health care, nursing homes and similar settings — should also be actively asking their patients and clients about FI (Wagg et al., 2023b). FI should particularly be monitored in certain populations, including those who are: living in nursing homes or other congregate living settings; those aged over 65 years in hospital; those aged over 80 years; living with impaired mobility or cognition; living with neurological diseases or other chronic conditions (especially diabetes); or experiencing constipation (Wagg et al., 2023b). Information should be collected about the consistency of stool, severity of FI, and impact on activities of daily living (ADLs) and quality of life (Wagg et al., 2023b).

Functional and cognitive assessments can help to evaluate whether a person can access and use the toilet properly (Saga et al., 2013). These assessments should consider an individual’s mobility, vision, dexterity and, if possible, an observation of their ability to get on and off a toilet, get undressed and re-dressed, and leave the washroom (Wagg et al., 2023b).

Treatment and Management of Incontinence

Treatment should be informed by patient preferences and goals. This includes determining whether the patient desires treatment, and if so, which type of treatment (Wagg et al., 2023a). This should include a proper explanation of the problem, management approaches, and risks and benefits of various treatment options (Wagg et al., 2023a).

The Society of Obstetricians and Gynecologists of Canada (SOGC) (Dufour & Wu, 2020) and the Canadian Urological Association (CUA) (Bettez et al., 2012) recommend more conservative therapies first, including lifestyle modification and healthy bladder behaviours, pelvic floor exercises and toileting, before considering medications and surgery.

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[2] *“Prompted voiding* “refers to using verbal and physical cues to prompt persons to attend to their wet/dry status and then encouraging them to use the toilet through positive reinforcement” (RNAO, 2020).

Lifestyle Modifications and Healthy Bladder Behaviours

Lifestyle modifications should be considered before trying other treatment options. Recommended lifestyle interventions for women include losing weight (Dufour & Wu, 2020), engaging in moderate exercise, quitting smoking, reducing caffeine intake (Dufour & Wu, 2020) and normalizing fluid intake (Dumoulin et al., 2017). For men, recommendations include losing weight, quitting smoking and reducing caffeine intake (Dumoulin et al., 2017). These modifications are beneficial for overall health and well-being, and will likely improve health outcomes and other conditions as well.

It is also important to look at fluid intake before starting any treatments for UI. Leakage can sometimes be reduced by cutting back on fluids, particularly if someone is having large amounts of fluid per day (Lukacz, 2022). However, it is also important to note that it is not good to drink too little, either. Adequate fluid intake is also important for managing constipation (RNAO, 2020). Additionally, reducing alcohol intake may be helpful as it is a diuretic and can lead to excess fluid output, frequency and urgency (Salvatore et al., 2017).

Other lifestyle changes are also important for FI. These can include educating patients and their unpaid caregivers about FI and how the bowel normally functions (including evacuation), and sharing treatment options, including diet modification (Bliss et al., 2023). There is inconsistent evidence on whether weight loss or physical activity improves FI specifically, with no evidence surrounding the impact of smoking cessation (Bliss et al., 2023). However, these lifestyle changes are encouraged for better overall health (Bliss et al., 2017). A medication review should also be done to ascertain if any prescriptions have FI-causing side effects and consider whether they can be replaced or discontinued (Bliss et al., 2017).

Pelvic Floor Exercises

The pelvic floor consists of a combination of bone, muscles and other connective tissues. They provide support for the pelvic organs (i.e. bladder, uterus, prostate, rectum, etc.), help with urination and defecation and maintaining continence, and help with sexual function (Faubion et al., 2012). Pelvic floor muscles weaken over time and ageing can impact these muscles in a variety of ways, including hormonal changes and muscular decline (Wente & Dolan, 2018). Vaginal birth, diabetes, surgeries and constipation may also cause some weakening of these muscles (Salvatore et al., 2017). All of this may contribute to UI and/or FI (Wente & Dolan, 2018).

A systematic review (Dumoulin et al., 2018) was conducted to determine the benefits of pelvic floor muscle training (PFMT) for women with urinary incontinence, when compared to no treatment or inactive treatment (i.e. advice on product use). PFMT, such as Kegel exercises, are exercises that aim to improve the strength, endurance, power and/or relaxation of the pelvic floor muscles (Dumoulin et al., 2018).

It was found that women living with stress UI who received PFMT were approximately eight times more likely to report being cured of UI than those not receiving treatment (Dumoulin et al., 2018). Women living with all types of UI were approximately five times more likely to report being cured by the end of their PFMT treatment (Dumoulin et al., 2018). Those living with stress UI were six times more likely to report cure or improvement, and those with all types of UI were about twice as likely to report cure or improvement (Dumoulin et al., 2018). Women in the PFMT groups were also found to have fewer leakage episodes per 24 hours, greater satisfaction with treatment and improved sexual outcomes (Dumoulin et al., 2018).

The SOGC (Dufour & Wu, 2020) recommends that pelvic floor muscle training be offered to women living with UI (stress UI, mixed UI and urge UI) and suggests that it be individually tailored and include a digital pelvic floor muscle examination. Additional recommendations for pelvic floor training, which should only be used on an individual basis, include combining it with “adjuncts” such as functional electrical stimulation (FES)[3], or using vaginal cones[4] or pessaries[5] (Dufour & Wu, 2020).

The Registered Nurses’ Association of Ontario (RNAO) (2020) adopted a similar recommendation from the National Institute for Health and Care Excellence (NICE) (2019) that “recommends that health providers offer women who live with stress or mixed urinary incontinence a trial of supervised PFMT for at least three months as first-line management. A comprehensive assessment should be conducted to determine the applicability of PFMT for these women.”

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[3] “Functional electrical stimulation. These devices produce low level electric current, which causes pelvic muscles to contract, simulating a voluntary pelvic contraction” (Robert & Ross, 2018).

[4] Vaginal cones are “placed in the vagina above the level of pelvic floor musculature. Contraction of these muscles is required to prevent the cone from slipping out of the vagina.” (Robert & Ross, 2018).

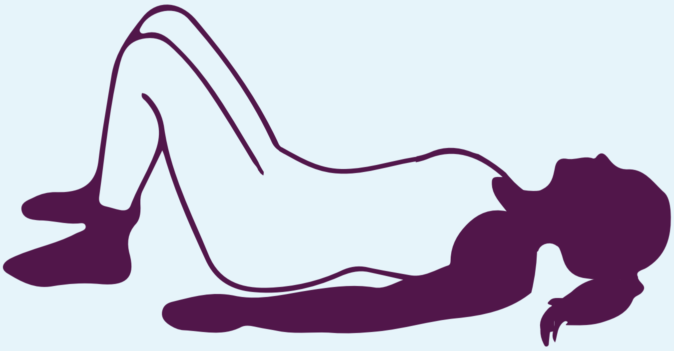
[5] Pessaries are typically used for treating pelvic organ prolapse, but there are now ones specific for treating stress UI, which support the urethra (Robert & Ross, 2018).

How to Do a Pelvic Floor Exercises

The following two exercise descriptions are practical examples that the Sinai Health and University Health Network Healthy Ageing and Geriatrics Program uses when prescribing pelvic floor muscle exercises for its older patients."

“The Wave”:

While lying on your back with knees bent, try to tighten your pelvic floor muscles one section at a time. Begin by contracting the anus as if you wanted to prevent the passage of gas. Hold for 5 seconds and relax. Contract the vagina as if you want to stop urine flow. Hold again for 5 seconds and relax. Finally contract in the front as if you wanted to hold urine. Hold for 5 seconds and relax. Wait for 10 seconds before starting another contraction. Do this exercise 3 times a day, 5-10 times each.



“The Elevator”:

While lying on your back with knees bent, slowly contract all the muscles of the pelvic floor at the same time. Imagine your pelvic floor is like an elevator that can go up from the first to the third floor.

Try to contract the pelvic muscles gradually one floor at a time. When you have reached the 3rd floor, hold the contraction for 3 seconds then gradually relax ‘floor by floor’ down to the 1st. Do this exercise 3 times a day, 5-10 times each.

Once you feel comfortable with these exercises in the lying position, progress to doing one session in the sitting position, one session in the standing position and one session in the lying position each day.

Biofeedback can be used to ensure that PFMT is working and that the correct pelvic floor muscles are being trained by allowing the individual to feel or see the muscle contraction. This can improve their understanding of the training. One study compared biofeedback PFMT in homebound and non-homebound adults and found that although those who were homebound had higher rates of functional impairment and more severe UI, the effectiveness of the PFMT did not significantly differ between the groups (Engberg & Sereika, 2016). Both groups had significant reductions in the number of daily incontinence episodes and voids (Engberg & Sereika, 2016). Most subjects reported that their UI had improved and almost all subjects were at least somewhat satisfied with their progress (Engberg & Sereika, 2016). Therefore, PFMT worked regardless of whether the adults were homebound or not, even though those that were homebound had higher rates of impairment and more severe UI.

Other studies have found that the biofeedback option did not provide additional benefits over other therapies, including PFMT alone (Hagen et al., 2020; Nunes et al., 2018). This suggests that biofeedback may be beneficial for certain groups but not all.

PFMT can be used to strengthen the external anal sphincter and pelvic floor (Bliss et al., 2023). Biofeedback can also be used to provide the individual with information about the effectiveness of their muscle contractions (Bliss et al., 2023).

Prompted and Routine Toileting

Another approach to managing incontinence is through prompted or routine toileting. The RNAO (2020) refers to toileting strategies as "a type of behavioural therapy and support aimed at improving bladder control." An RNAO expert panel (2020) "recommends that health providers offer individualized toileting strategies in persons living with urinary incontinence." A strategy should take into account age, physical limitations and cognitive status (RNAO, 2020). The RNAO also refers to bowel protocols as a "step-by-step outline of strategies to manage constipation in individuals" (RNAO, 2020).

There are several different options for prompted or routine toileting:

- **Prompted voiding** "refers to using verbal and physical cues to prompt persons to attend to their wet/dry status and then encouraging them to use the toilet through positive reinforcement" (RNAO, 2020). This has been shown to decrease incontinence episodes (RNAO, 2020; WHO, 2017). It can be used for those living with or without cognitive impairments (WHO, 2017). This can include approaching the person at set times based on their voiding pattern, greeting them, providing cues to promote toileting, looking for behaviours that indicate they need to be toileted, prompting them to toilet, offering assistance, and then providing positive feedback (Martín-Losada et al., 2020; RNAO, 2020). The goal is to teach people to request help to initiate their toileting using positive reinforcement (Wagg et al., 2023b).

- **Habit training** is a type of toileting assistance provided by a care provider or unpaid caregiver and the intervals between toileting are based on the individual’s voiding habits (Wagg et al., 2023b). This is often determined through the use of a bladder diary (Wagg et al., 2023b).
- **Timed voiding** means toileting someone based on a set amount of time (e.g. every two to three hours) (Wagg et al., 2023b). It fully relies on a care provider or unpaid caregiver and aims only to avoid incontinence, not to encourage the person to initiate the voiding themselves (Wagg et al., 2023b).
- **Bladder training** “involves lifestyle modifications (e.g. eliminating bladder irritants from diet, managing fluid intake, weight control, bowel regulation, and smoking cessation) and the use of relaxation and distraction techniques for the control of urinary frequency and urgency” (RNAO, 2020). It requires educating the individual living with incontinence; scheduling voiding in an attempt to increase the interval of voiding; and providing positive reinforcement, such as psychological support and encouragement (WHO, 2017; Dumoulin et al., 2017).
- **Bowel training** is used to modify behaviour to be able to respond to urgency (Bliss & Norton, 2010). Cognitive and relaxation techniques can be used to train people to delay bowel movements for increasingly longer periods of time and to contract the anal sphincter to prevent the release of a bowel movement (Bliss & Norton, 2010).

Continence Products

It is important to note that while some incontinence problems can be cured, this is not always the case. In such cases, continence products to manage symptoms may be required (Fader et al., 2023).

One way to consider continence products is in three groups: those that assist with toileting; those that help with urinary retention; and those that prevent or contain incontinence (Fader et al., 2023).

Finding the correct continence product should be based on assessing a variety of factors. Fader et al. (2023) note that these factors include the nature of the problem, sex and gender, physical characteristics, mental acuity, mobility, dexterity, eyesight, leg abduction problems, lifestyle and environment, level of independence or assistance, laundry facilities, disposal facilities, storage facilities and personal preferences and priorities. It is also important to note that incontinence products often are an out-of-pocket cost. Through our interviews with experts, it was clear that affordability also factors into choosing the right product.

For those who need assistance with toileting, handheld urinals (both male and female) allow them to empty their bladder without the need for a toilet (Fader et al., 2023). Other products to help with toileting are bedpans and commodes, or mobile shower chairs (Fader et al., 2023).

Products that assist with managing urinary retention include catheters and drainage bags (Fader et al., 2023). Indwelling catheters are inserted into the bladder and can be used for longer periods of time if needed (Fader et al., 2023). Intermittent catheters are inserted as needed to drain urine from the bladder and then removed until the next time it is needed (Fader et al., 2023).

There are a variety of products to contain incontinence, including absorbent products in varying sizes and absorbencies for UI and/or FI (Fader et al., 2023). The majority are meant to be worn on the person, such as pads, which adhere to underwear, and briefs, which have self-adhesive tabs that fasten the product around the waist (Fader et al., 2023). Other pads or products are designed to be used with a bed or chair (Fader et al., 2023). Products may be single-use and disposable, or reusable and washable (Fader et al., 2023).

Additional devices to contain urinary incontinence for men can include penile sheaths, which fit over the penis and collect urine, and urine drainage bags, worn under the clothes either on the leg or waist (Fader et al., 2023). For women, options include external urethral devices placed over the urethra at the opening, internal urethral devices placed inside the urethra, and internal vaginal devices inserted into the vagina, which help support the neck of the bladder (Fader et al., 2023).

Devices to control FI include a rectal catheter, which drains stool into a collection bag and can be used for up to 29 days (Fader et al., 2023); an anal plug, a cup-shaped piece of foam that is inserted into the rectum to prevent leakage (Fader et al., 2023); and an anal pouch, an external collection bag that allows stool to be drained, however, these are usually only used in inpatient settings (Fader et al., 2023).

For older adults living with FI, especially those living in a nursing home, incontinence is typically managed with products (Wagg et al., 2023b). Currently, most products are made for UI, but there are various proposals to make them better for both UI and FI (Cottenden et al., 2017). Suggested improvements to make products more appropriate for FI include making them better able to control odour, fit better and remain in place (Fader et al., 2023). Other suggestions include making it easier distinguish the front from the back of the product; adding wings to improve absorbency; making them flushable; and making them wider or longer to better fit different body shapes (Fader et al., 2023).

One study of 446 people in a hospital setting found that almost 60 per cent reported using some type of product or device (Ostaszkiewicz et al., 2008). Of those who wore a product, 41 per cent reported no episodes of UI or FI in the past day (Ostaszkiewicz et al., 2008). On the other hand, 16 per cent of those who did experience UI or FI in the previous day were not using a continence product at the time (Ostaszkiewicz et al., 2008). The authors note that their findings may suggest there is an overuse of these products, but also a lack of understanding about when they should be used (Ostaszkiewicz et al., 2008).

To access evidence-based, comprehensive, independent and freely available information on continence products, please visit the Continence Product Advisor website. This website has been created through a collaboration between ICS, International Consultation on Incontinence (ICI), University College London and University of Southampton (International Continence Society et al., n.d.).

Medications

There are a variety of drugs available to help manage UI or FI, depending on the type of incontinence. Although drugs may benefit certain populations, they also have the potential for significant side effects that should be considered when exploring treatment options (Andersson et al., 2023). The Canadian Urological Association (CUA) (Bettez et al., 2012) recommends that the use of medications should be approached with caution for older adults, who are more likely to experience side effects. If medication is chosen as a treatment option, it should be discussed and prescribed by a health care provider.

Examples of the types of medications used to treat those living with OAB and symptoms of UI are *antimuscarinic* or *anticholinergic* medications, *beta-3-adrenergic receptor agonists (beta-3-adrenoceptor agonists), botulinum toxin* (Andersson et al., 2023; CADTH, 2018). In regards to botulinum toxin, the Canadian Drug Expert Committee in 2014 recommended that it could be listed as a treatment as long as those living with OAB have tried other treatments without positive results (CADTH, 2018).

Medication management for FI may vary depending on on patient factors and treatment focus (e.g., reducing diarrhoea, increase resting anal canal pressure) (Bliss et al., 2023). For diarrhea-associated FI, loperamide is recommended to be administered to women with normal stool consistency (Bliss et al., 2023). If FI is due to constipation, which can lead to overflow, the bowel should be cleared, which can be done through a mixture of laxatives and enemas (Wagg et al., 2023b).

Surgery

If other treatment options have not worked, surgery may be recommended. Although it is associated with a higher risk than other treatment options, surgery can provide longer-term relief for those living with more severe cases of incontinence (CCF, n.d.b.). The CUA (Bettez et al., 2012) similarly suggests that other methods be tried first, but acknowledges that age is not a contraindication for surgery. It is important that all potential surgical options be thoroughly discussed with a health care professional to ensure all risks and benefits are considered.

Surgical procedures for UI include:

- **Urethral bulking:** a minimally invasive treatment in which bulking agents are injected into tissues surrounding the urethra to help provide more support. This can be used for both men and women (CCF, n.d.b).
- **Sling procedure:** This is the most common surgical procedure for women. It involves placing a sling under the urethra for support (CCF, n.d.b). Surgeons have recently developed a sling procedure for men (CCF, n.d.b).
- **Bladder neck suspension:** Lifts the bladder neck so it does not sag, which is a cause of incontinence (CCF, n.d.b).
- **Sacral nerve stimulation:** This involves implanting a small device beside the sacral nerves in the lower back, which play a role in emptying the bladder, to ensure that the signalling pathways work properly (CCF, n.d.b). It is used for problems with overactive bladder, urge UI and urinary retention (CCF, n.d.b).

There are a few surgical options for those living with FI:

- **Sphincter repair:** A technique that can be employed to repair the anal sphincter muscles immediately following a trauma such as childbirth (Knowles et al., 2023).
- **Sphincteroplasty:** Involves reconstructing the muscles of the anal sphincter typically a few months following an injury, including from childbirth (Knowles et al., 2023).

Additional surgical options for more severe forms of FI can be considered if necessary.

What are Common Issues Facing Older Adults Living with Incontinence?

Lack of Awareness and Education

It will be vital to create more educational opportunities and resources about incontinence for those living with it, those at risk of developing it and those who provide care to them.

Education helps to increase awareness of incontinence and the benefits of maintaining continence (Angie et al., 2023). It also helps to raise awareness that incontinence is not a normal part of ageing and that there are ways to treat it, as well as destigmatizing the condition and encouraging people to who have it to seek medical care (Angie et al., 2023).

Lack of Public Education and Under-reporting

It is important to start with the basics. Knowledge translation and education programs should focus first on explaining the word "incontinence" and the various ways it presents so that people can better recognize and discuss their symptoms and treatment options (Taylor et al., 2013). One survey found that only 76.5 per cent of women understood the term urinary incontinence properly (Taylor et al., 2013). A more recent nationally representative survey of 1,000 Canadians found similar results, with only 78.4 per cent reporting that they were either aware or vaguely aware of the term "incontinence," approximately 48 per cent understanding it as an "inability to hold one's bladder," and just under 27 per cent understanding it as involuntary leakage (Shaw, Cahill, & Wagg, 2020). Shaw et al. (2020) noted that those surveyed felt incontinence was common and thought it affected around 30 per cent of Canadians, although those estimates were higher for older respondents and women.

UI has been found to affect an individual's quality of life, self-esteem and sense of value or autonomy, but it is still too often considered a normal and inevitable part of growing older (Ostaszkiewicz, O'Connell, & Dunning, 2012).

Individuals living with incontinence who are willing to discuss it often say that they are "making the best of it" or "suffering with it" (Ostaszkiewicz et al., 2012). Despite having challenges with their toileting, many declined further evaluation or treatment options (Ostaszkiewicz et al., 2012). Shaw et al. (2020) found that approximately 94 per cent of people felt those living with incontinence should seek out medical advice, but less than half (41.4 per cent) knew what the treatment options were or how to manage symptoms. Women were more likely than men to be aware of these options (54.3 per cent versus 27.4 per cent) (Shaw et al., 2020). Of those living with UI, just under half had initiated a discussion with their health care provider about their symptoms, with just over half of those reporting it was in the last year (Shaw et al., 2020).

One study from the U.S. found that of women living with UI, only about 25 per cent seek care, 23 per cent receive care and 12 per cent receive sub-specialty (i.e. urogynecology) care (Minassian et al., 2012).

Women who may be at a high risk of developing UI, or who have early symptoms, are rarely referred to pelvic floor physiotherapists, even though they may be able to reverse their symptoms (Minassian et al., 2012). By the time women finally receive specialized care by a pelvic floor specialist, they tend to have advanced symptoms and reversal becomes more difficult, if not impossible (Minassian et al., 2012).

Similar results are seen for those living with FI. FI is reported more often when it becomes a serious problem or when the cause is unknown (Bliss et al., 2005). Men are less likely to report FI than women (Milsom et al., 2017).

In another study, less than half of those who experience FI reported discussing it with a health care provider (Bliss et al., 2005). Those who did had experienced the problem for almost 2.5 years on average (Bliss et al., 2005). They were found to have more chronic health problems, as well as more severe FI, than those who did not report their condition to a health care provider (Bliss et al., 2005). Another survey from the U.S. reported that those who did not consult their doctors about FI thought it was a normal part of ageing and nothing could be done to treat it (Kunduru et al., 2015). Many respondents said providers should ask about FI proactively, with a noted preference of screening through questionnaires versus direct questioning, likely due to embarrassment (Kunduru et al., 2015). They also found that only 12 per cent of respondents reported being screened for FI in speciality clinic settings, while only 13 per cent reported being screened in primary-care settings (Kunduru et al., 2015). Of those who did consult with a medical professional about FI, 88 per cent reported that they were the ones to initiate the conversation (Kunduru et al., 2015).

A study looking at FI in Ontario nursing homes found that the majority of residents thought it was a normal part of ageing (Taylor, Cahill, & Rizk, 2014). Many respondents were unaware of the definition of FI, its causes or the options for treatment, but they were aware of its adverse effects (Taylor et al., 2014). Around half did not seek care due to embarrassment or because of low expectations of treatment. Many of those who reported living with FI thought that it was caused by food or laxatives that they had received (Taylor et al., 2014). One U.S. study found that 67 per cent of older adults living with FI symptoms that occurred at least several times per year were using self-care practices to manage the issue (Bliss et al., 2005). These practices include diet changes, wearing a product and/or reducing activity levels (Bliss et al., 2005). Those living with both UI and FI reported wearing an incontinence product always or most of the time, and were more likely to change their diet or rate their health as poor than those living only with FI (Bliss et al., 2005). Women (38 per cent) were more likely than men (11 per cent) to use three or more self-care practices (Bliss et al., 2005). The most common self-care approach for women was to use a product, followed by taking anti-diarrheal drugs and changing their diet. For men, the most common self-care approach was to take anti-diarrheal drugs, followed by wearing a product and changing their diet (Bliss et al., 2005).

It is also important to provide education about available and appropriate products. One qualitative study of nine women showed that their knowledge of absorbent/containment products was mostly limited and based on their previous experience with menstrual products (Smith et al., 2019a). Women reported going to a variety of sources for information about the options, effectiveness and cost of products, with very few knowing how to access available financial supports for products (Smith et al., 2019a). They expressed a need for a trustworthy person to provide them with unbiased information (Smith et al., 2019a). Although they considered health care professionals a good source of information, many were reluctant to bring it up and instead turned to television, magazines, pamphlets and the internet (Smith et al., 2019a).

Shaw et al. (2019) found that older women living in the community with any type of UI noted it significantly affected their quality of life. More than two-thirds of the women, including those with severe incontinence, believed that incontinence and using large quantities of pads were normal parts of ageing (Shaw et al., 2019). Those who thought UI was a normal part of ageing reported a worse impact of the UI on their quality of life than those women who did not (Shaw et al., 2019). Women's attitudes toward UI have been considered a barrier to accessing and seeking health care. This means women may benefit from more awareness and education about how to manage UI, including the message that it is not a condition they need to "tolerate" (Shaw et al., 2019).

Some women opt to use menstrual products or feminine hygiene products to manage incontinence, even though products designed specifically for incontinence are a better choice because they absorb fluid faster, keep the wearer drier and more comfortable, and reduce the odour of urine (Healthwise Staff, 2019). One study found that users of absorbent products were more likely to use feminine hygiene pads and pantiliners rather than incontinence products for FI (Bliss et al., 2011). Younger individuals living with FI were less likely to wear a product, and when they did, it tended to be a feminine hygiene product (Bliss et al., 2011). Feminine hygiene products were worn by many people in the study, but only 50 per cent were satisfied with the product and even less reported having confidence in the products (Bliss et al., 2011).

A Lack of Education Among Health Care Providers

Wagg et al. (2023b) note that health care providers in primary, acute, speciality and long-term care settings do not always have a high awareness about incontinence, especially FI, in older populations. If a symptom is reported to a physician, it does not necessarily mean that action will be taken, as some do not respond or offer a dismissive response that may make patients believe there are no treatment options available (Milsom et al., 2023). This further reinforces stigma and under-reporting. It has been found that in nursing homes, there are limited referrals to assess for FI, and the condition is more likely to be managed with continence products (Wagg et al., 2023b).

In one study of family physicians in Canada, just under 50 per cent said they understood UI clearly, 38 per cent said they did not, and only around 38 per cent had a plan to deal with it in their practice. In the same study, only around 35 per cent felt very comfortable dealing with UI and approximately 50 per cent reported that they usually refer their patients living with incontinence to other physicians or specialists (Swanson et al., 2002). Another study of family physicians in Alberta found that around 70 per cent of respondents felt “fairly confident” managing UI (Nguyen et al., 2013). However, about 65 per cent had received no training on UI and its management within the previous five years, with about 33 per cent having no additional training since medical school (Nguyen et al., 2013). Around 50 per cent reported proactively discussing UI with most or all of the patients they suspected were experiencing it, while 29.7 per cent reported discussing it with some patients, and 15.2 per cent reported not discussing it with anyone unless the issue was raised (Nguyen et al., 2013). Some of the reasons physicians gave for their lack of confidence in managing UI included concerns about inadequate training, the side effects of drugs, lack of support services in the area and embarrassment (Nguyen et al., 2013).

This lack of confidence may contribute to under-treatment in those who seek help (Milsom et al., 2023). Colborne & Dahlke (2017) found that in hospitalized older adults, nursing staff did not assess for UI due to a lack of knowledge about conducting a proper assessment.

Those providing long-term care reported that they, in general, feel confident treating those living with FI, but also said additional training in college or in the workplace would be beneficial (Taylor et al., 2014). Another survey of more than 600 physician members of the American Geriatric Society in the U.S. found that approximately 54 per cent screened their patients for FI often or always (Nyrop et al., 2012). Just over 65 per cent of respondents found it necessary to determine the cause of FI in their patients

(Nyrop et al., 2012). Approximately 60 per cent believed that FI can often or always be managed in a conservative way, and nearly 90 per cent believed it has negative impacts on quality of life (Nyrop et al., 2012). Just under 33 per cent believed that nursing homes always or often take good care of those living with FI, while just over 33 per cent believed that they often or always lack the expertise to care for patients with FI (Nyrop et al., 2012). About 10 per cent said they probably or definitely would refer an individual living with FI to a nursing home and 17.2 per cent reported that they were uncertain (Nyrop et al., 2012).

Underreporting and Stigma

Many people do not report their incontinence to a health care provider due to the stigma and issues related to denial, acceptance and shame (Cameron Institute, 2014a). One qualitative study asking people at the end-of-life about their continence care preferences found that it was important for them to remain clean and avoid humiliation (Smith et al., 2019b). These patients were willing to give up some dignity and accept interventions, including pads or catheters, as long as it addressed other symptoms, including pain (Smith et al., 2019b). A qualitative study found that older women living with incontinence in nursing homes described a sense of loss — including loss of bodily control, dignity, independence and the ability to maintain active lives (MacDonald & Butler, 2007). Women noted that UI reminded them of childhood and embarrassment, including feeling like the “bad kid” and regressing to childhood (MacDonald & Butler, 2007). Women did not want to discuss their UI with anyone because they thought it was not socially acceptable, and many chose to remain secretive (MacDonald & Butler, 2007).

Ostaszkiewicz et al. (2016) found that the stigma of incontinence extends to those who are providing care, as it is often stigmatized as “dirty work” because of the contact with waste and fluids. This often leads to a perception that they are at the bottom of a hierarchy, which affects their self-worth (Ostaszkiewicz et al., 2016). This is further compounded by the fact that they often have lower wages than other members of the care team and do not often have time to spend with residents doing more pleasant activities (Ostaszkiewicz et al., 2016).

Social Consequences

Social Isolation, Loneliness and Relationship Issues

In 2008-09, an estimated 1.4 million older Canadians reported experiencing feelings of loneliness “often” or “some of the time” (Ramage-Morin & Gilmour, 2013). But those living with UI were significantly more likely to be affected: 34 per cent of men and 53 per cent of women living with UI reported being lonely, compared to 24 per cent of men and 38 per cent of women who do not experience UI (Ramage-Morin & Gilmour, 2013).

This means that those living with incontinence were 1.8 times more likely to experience loneliness than those without it (Ramage-Morin & Gilmour, 2013).

Health Quality Ontario (2018) interviewed six people living with UI and two people caring for family members living with UI. Nearly all participants stated that UI changed the quality of life of the person living with it. Those interviewed noted that prior to experiencing UI, they were able to be active and independent. In contrast, after developing UI, they had reduced their social interactions. Those living with incontinence often experienced a loss of dignity, especially if incidents of UI had occurred in public. Those caring for someone with UI noted that they had to make many changes to their schedule, as incontinence requires constant attention.

In another study, the majority of participants reported that UI led to negative changes in their sexual life and their relationships (Hayder, 2012). They also noted having challenges discussing it with their partners (Hayder, 2012). UI not only affected existing partnerships, but also new partnerships (Hayder, 2012). Only a few participants reported seeking assistance in dealing with UI and its relationship to their sexual life. Those who did seek support took actions like talking to friends, participating in self-help groups and seeking medical assistance (Hayder, 2012).

Care and Cost Consequences

Canadians living with UI are more likely to visit physicians and spend more time in hospitals and nursing homes compared to those without UI (Cameron Institute, 2014a).

One study from Spain found an association between UI and mortality in nursing home settings (Damian et al., 2017). It found UI to be associated with a 24 per cent increased risk for all-cause mortality, with a risk of 7 per cent for those with mild incontinence and 44 per cent for those with severe incontinence (Damian et al., 2017). This is thought to be associated with the fact that UI can limit mobility, decrease activity and affect relationships, which can lead to depression, disability and death (Damian et al., 2017). Deteriorating continence was also ranked second, after cognitive and functional decline, as a contributor to lower quality of life among those living in nursing homes (DuBeau, Simon, & Morris, 2006).

Skin Outcomes

Incontinence-associated dermatitis (IAD), also referred to as irritant contact dermatitis due to incontinence, is a complex condition that is mainly caused by excess moisture (World Health Organization, n.d.; Yates, 2018). In a qualitative study, many women described issues with “skin irritation and breakdown; inflammation of the bladder; physical discomfort; and feelings of being wet, cold, and soggy” (MacDonald & Butler, 2007). One U.S. study of 98 adults living with FI in the community found that the incidence of IAD was 41 per cent, with no differences between men and women or different ages (Bliss et al., 2015). The most common sign was redness, reported by more than 50 per cent of individuals experiencing a skin problem, followed by 13 per cent with a rash or fungal infection, 13 per cent with skin loss, and a few reports of bleeding. Almost 75 per cent reported soreness, making it the most common symptom (Bliss et al., 2015).

It is recommended that those living with incontinence be assessed for IAD, and that the assessment includes a skincare regime (Yates, 2018). When assessing the risk of pressure ulcers, in addition to IAD, incontinence and moisture should be considered (Beeckman et al., 2014). IAD has also been found to be associated with the development of pressure ulcers (Beeckman et al., 2014).

Another study by Fernando & Wagg (2017) examined the perceived acceptable wait times for changing soiled products, comparing patient expectations with those of direct-care providers in acute care hospitals. Around 90 per cent of patients believed that a wait time of up to one hour for UI was OK during the day, while 44 per cent of care providers said an hour or more was acceptable, and 14 per cent said it was acceptable to wait for 2.5 to three hours (Fernando & Wagg, 2017). Most patients and care providers reported that FI should be responded to within 15 minutes, day or night (Fernando & Wagg, 2017). This is likely because stool is often considered to be worse than urine and more likely to cause skin damage (Fernando & Wagg, 2017).

The actual wait times experienced by those with either UI or FI episodes were longer than the acceptable wait times reported by both patients and providers in the study. Staff reported being unable to respond in a more timely way due to the need to prioritize acute-care admissions, staff shortages and arranging break schedules (Fernando & Wagg, 2017).

Increased Risk of Institutionalization

The Medical Advisory Secretariat (2008) of Ontario identified UI as one of the key predictors for an older adult’s transition from community settings to a nursing home. In August 2007, the Medical Advisory Secretariat began its “Aging in the Community” project. Through a literature review and consultation with experts, this initiative found that there were four key factors that predicted a person’s entrance into a nursing home: falls and fall-related injuries, dementia, social isolation and UI. For caregivers, UI was a major “tipping point” in their decision to institutionalize the care recipient (Medical Advisory Secretariat, 2008).

Research from the Canadian Institute for Health Information (CIHI) (2020) found that in 2018-19, around one in nine of those who entered long-term care homes could have potentially been cared for at home. A previous analysis by CIHI (2017) found that those who required extensive assistance with personal hygiene or toilet use were 3.3 times more likely to enter a nursing home compared to those who remained independent in these functions. Maxwell et al. (2013) found that frequent UI increases the risk of placement into a nursing home.

Associated Costs

The Cameron Institute, commissioned by the Canadian Continence Foundation estimated that in 2014 UI costs Canadians more than $8.5 billion per year (See Table 4), when considering costs to the individual, costs of lost productivity and costs to the health care system (Cameron Institute, 2014b).

If including FI, the total costs could reach $10 billion annually (Cameron Institute, 2014a). It was also determined that in 2014 an older Canadian living with incontinence would likely be spending an estimated $1,400 to $2,100 per year on products, on average (Cameron Institute, 2014b). This includes cost such as products, additional laundry and dry cleaning, additional supplies such as toilet paper and paper towels, home care and any medications that are not covered by health insurance plans (Cameron Institute, 2014b).

This meant that in 2014, Canadians living with incontinence were spending an estimated combined total of $2.5 billion per year to manage their incontinence.

Estimates in 2014 for the cost of lost productivity came in at around $2.1 billion per year (Cameron Institute, 2014b). People living with incontinence may need to leave the workforce due to the stress of managing the condition. They may also exhibit “presenteeism,” meaning they go to work in-person but are unable to put in a full day because of their medical condition. Canadians living with incontinence also need to access health care more frequently. This includes visits to nurse continence advisers, physicians and specialists, and potentially access to medications, surgery or long-term care. Estimates in 2014 suggested that incontinence was costing the Canadian healthcare system a minimum of $3.84 billion per year (Cameron Institute, 2014b).

Table 4: 2014 Estimated Costs Related to Incontinence in Canada

Incontinence Costs in Canada	
Costs to the individual	$2,584,476,950
Costs to the employer	$2,103,292,400
Costs to the health care system	$3,843,075,600
Total	**$8,530,844,950**

(Cameron Institute, 2014b)

Nearly all people interviewed by Health Quality Ontario (HQO) (2018) reported that cost was their biggest barrier to purchasing incontinence products, with people reporting that financial resources led to compromise on the quality of the product or they delayed changing. Both of these decisions reduced their overall quality of life. Cost was a key factor in another study, with five of nine women interviewed noting it was a factor affecting product choice and two noting it was the most important factor (Smith et al., 2019a). For example, one woman reported not buying her preferred continence product because it was expensive (Smith et al., 2019a).

One study of Medicare-insured long-term care residents in the U.S. found that residents living with overactive bladder used health care services more often and had higher costs compared to residents without the condition (Sura et al., 2021). Overactive bladder was found to increase all-cause hospital visits, physician visits and emergency department visits for patients during their first six months in the home (Sura et al., 2021). The annual cost of overactive bladder in nursing homes was estimated at more than $700 million (Sura et al., 2021).

Impact on Unpaid Caregivers

UI has been associated with increased dependence for almost all activities of daily living (ADLs)[6] (Yang et al., 2018). One study found that over 20 per cent of women who experienced UI a few times per week received care for at least one ADL, while 40 per cent received care for at least one instrumental activity of daily living (IADL)[7] (Yang et al., 2018). This is more than twice the care needed for those who experienced UI only a few times a year or not at all (Yang et al., 2018).

Managing UI can be important to help women remain functionally independent (Yang et al., 2018). Around 60 per cent of women living with UI in the study had difficulty with an ADL or IADL and did not receive assistance for at least one the activities (Yang et al., 2018). At least 10 per cent of older women living with UI also provided assistance to another older adult while managing their own health — which is generally worse than the health of caregivers who are not living with UI (Yang et al., 2018).

One study of European unpaid caregivers providing care for those living with incontinence found that they had to change and bathe care recipients multiple times per day (Santini, Andersson, & Lamura, 2016). Caregivers reported having to either put their care recipient on the toilet, change pads or launder clothing and bed sheets.

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[6] Activities of Daily Living (ADLs): The WHO defines these as “the basic activities necessary for daily life, such as bathing or showering, dressing, eating, getting in or out of bed or chairs, using the toilet, and getting around inside the home” (WHO, 2015).

[7] Instrumental Activities of Daily Living (iADLs): The WHO defines these as “activities that facilitate independent living, such as using the telephone, taking medications, managing money, shopping for groceries, preparing meals and using a map.” (WHO, 2015).

These actions led to physical problems (e.g. back pain) and relationship issues, and made it more difficult to maintain a social life — many unpaid caregivers reported feeling “trapped” and not free to engage in social activities (Santini et al., 2016).

Many also reported direct costs, such as products, and indirect costs, such as needing to leave a job (Santini et al., 2016). Finally, many of these caregivers had difficulty identifying any positive aspects of caring, and reported feeling overwhelmed and burdened (Santini et al., 2016).

Davis et al. (2021) used an online survey to determine the impact on the caregivers of someone living with UI. Over half (58 per cent) of caregivers reported seeking treatment for their care recipient’s UI and the most common treatments were medications (47 per cent), dietary changes (20 per cent), pelvic floor exercises (13 per cent), and surgery (22 per cent). Of those who sought treatment, around 11 per cent of them reported that their care recipient never received the treatment and that treatment options including toileting programs were not often recommended (Davis et al., 2021). Caregivers were also asked about their educational and support needs and it was found that they needed strategies to better manage UI, ways to communicate with a person living with cognitive impairment, how to select UI supplies and products, how to respond to difficult behaviours, paying for supplies, and advice from other caregivers of those living with UI (Davis et al., 2021). Unpaid caregivers who felt supported in their role reported having a more positive quality of life (Di Rosa & Lamura, 2016). When caring for someone experiencing both UI and FI, unpaid caregivers reported a lower quality of life when the caregiving situation persisted for extended periods (Di Rosa & Lamura, 2016).

Managing Incontinence: Proven and Promising Approaches from Around the World

Innovations for Better Incontinence Management

In order to improve continence care, it is important to use more person-centred approaches (Taylor & Cahill, 2018). This includes moving away from symptom management and towards lasting solutions (Taylor & Cahill, 2018).

Highlight on Wagg et al. (2019) Development of Key Performance Indicators

Wagg et al. (2019) identified 14 key performance indicators that should be used to measure and encourage high-quality continence care in health care environments:

1. Proportion of staff with the skills to perform a continence assessment and prescribe a toileting and containment strategy
2. Proportion of persons with incontinence in receipt of pads with a documented assessment and formulation of a toileting and containment strategy
3. Mean number of days from referral to assessment for persons with incontinence who require a toileting and containment strategy
4. Proportion of persons whose toileting and containment strategy is reviewed
5. Proportion of persons with incontinence who receive education on toileting and containment strategies
6. Proportion of persons with incontinence with an indwelling catheter to manage incontinence
7. Proportion of care-dependent persons with incontinence managed with a toileting and containment strategy who are able to independently manage their incontinence
8. Proportion of persons with incontinence and incontinence-associated dermatitis who receive a toileting and containment strategy
9. Proportion of persons with incontinence managed with a toileting and containment strategy who report “good” or “acceptable” levels of access and support to toilet facilities in their daily life
10. Proportion of persons with incontinence deemed eligible for a toileting and containment strategy who are offered a choice of product type following assessment of incontinence
11. Persons with incontinence managed with a toileting and containment strategy who report sustained or improved emotional well-being
12. Proportion of persons managing incontinence with a toileting and containment strategy who are able to either remain in work or take up work
13. Proportion of caregiving relatives of persons with incontinence who report an acceptable level of emotional well-being
14. Cost of hospital admissions and re-admissions related to poor management with toileting and containment strategies for incontinence

Best-practice guidelines should be used when promoting continence to combat stigma, provide facts, foster compassion and understanding, and increase the use of preventive approaches (Taylor & Cahill, 2018). An expert panel (Wagg et al., 2014) found eight key components to providing high-quality continence care in health care environments: 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.

An international study, entitled “Continence Across Continents To Upend Stigma and Dependency (CACTUS-D),” evaluated the effectiveness of a continence-promotion program on incontinence symptoms, rate of falls, self-stigmatization and quality of life among community-dwelling women living with incontinence (Tannenbaum et la., 2015). A total of 909 women enrolled in the study: 461 in the continence-promotion intervention, and 448 in the control group attending a healthy ageing workshop that did not discuss treatment for incontinence (Tannenbaum et al., 2019). Community organizations in Quebec, Western Canada, France and the U.K. participated (Tannenbaum, et al., 2019). After a year, 15 per cent of women in the continence-promotion group reported improvement in UI symptoms, compared with just under seven per cent of those in the control group (Tannenbaum et al., 2019). Incontinence-related quality of life also improved in the continence-promotion group compared to the control group (Tannenbaum et al., 2019). Participants in both groups reported a decrease in falls and improved overall health-related quality of life (Tannenbaum et al., 2019). This study demonstrates that partnering with community organizations may be beneficial for engaging older women in health-promotion activities (Tannenbaum et al., 2019).

Another study in the U.K. found that using community organizations to provide health education, combined with the delivery of a self-management tool, resulted in improvement of incontinence in 66 per cent of those who received it, with 30 per cent of those reporting significant improvements (Tannenbaum et al., 2013). This was compared to 59 per cent improvement in symptoms when group workshop interventions deliver continence education and 41 per cent for group interventions delivering self-management information (Tannenbaum et al., 2013).

The Growing Role of Health Care Professionals as Continence Specialists

In 2014, a panel of international experts from a variety of disciplines was brought together to consider “optimal” continence care for adults living in the community, with the intention that providing such care would reduce the number of older adults who needed to be admitted to long-term care (Wagg et al., 2014). The panel found through a literature review and panel discussions that continence-care services vary widely around the world. The panel conducted 47 interviews with representatives from a variety of backgrounds in different international locations and all interviewees noted that continence care was not considered a priority for their health care systems. Some of the panel's recommendations included ensuring easy access to continence care by providing robust referral pathways; when possible, moving continence care away from primary care to continence nurse specialists; and training existing staff if there were no nurse specialists available. In addition, it suggested promoting self-management tools and techniques; providing information about containment products; enabling the use of technologies; emphasizing shared decision-making between health care providers, patients and caregivers; and conducting educational campaigns about incontinence and treatment options (Wagg et al., 2014). This study also recommend that a comprehensive assessment should be completed for all those who will be using incontinence products (Wagg et al., 2014).

Wagg et al. (2014) noted that most of the evidence about the effectiveness of nurse specialists in continence care is from the U.K., U.S., the Netherlands, Canada, Australia and Sweden. Due to concerns about the generalizability and applicability of this finding in other countries, these models are recommended for regions that have sufficient funding, support and training programs for nurses to support such a role (Wagg et al., 2014).

While there is a lack of education for health care providers on UI, FI and other continence-related topics, specific courses on continence care are available in some countries, including Australia, Canada, the U.K., U.S., and parts of Europe and Asia (Newman et al., 2017). The Continence Foundation of Australia has a learning portal for professionals that offers a wide range of materials. This includes courses, webinars and educational resources on incontinence and continence care. One example is the "Essentials of Continence" course, which covers incontinence and the physiology of the body. Another course, called "Aspects of Continence Care," focuses on skincare, person-centred care, communication, toileting habits and bladder and bowel diaries, among other topics (Continence Foundation of Australia, 2021a). The Australian government has established key programs to support the provision of continence products, which likely motivated the development of these and other educational resources. Australians who require support with continence products participate in a formal evaluation process to assess their needs.

In Canada, the Nurse Continence Advisor (NCA) Certificate Program was established by the McMaster University School of Nursing (SON) in 1996. This program enrolled registered nurses annually from 1997 to 2018. Canadian Nurse Continence Advisors Association was established in November 2000 with members from 10 provinces. It became an Affiliate Group within Canadian Nurses Association (CNA) 2003 (Skelly, personal communication, 2022).

In September 2019, a new online introductory course, called Concepts of Continence Care, was offered as an elective for those in their third and fourth year of nursing. This was the first time it had been offered at an undergraduate level in Canada. In 2020, the McMaster SON, in collaboration with McMaster

Continuing Education agreed to offer a new certificate program that was open to a wider audience of health providers with knowledge and skills to manage and treat incontinence in a wide range of care settings. This program launched in spring 2021 and it is made up of three online courses with study module and tutorials. This replaces the previous Nurse Continence Advisor (NCA) Certificate Program (Skelly, personal communication, 2022). There is also a professional development certificate for urogynecological wellness practitioners at MacEwan University in Alberta. This program provides health care practitioners with knowledge, skills and competencies to provide care for patients with pelvic floor disorders (MacEwan University, n.d.).

Also in Canada, Nurses Specializing in Wound, Ostomy and Continence Canada (NSWOCC) is a registered charity representing more than 500 nurses specialized in nursing care of patients living with challenges in wound, ostomy and continence care across the country (NSWOCC, n.d.). These nurses have graduated from the World Council of Enterostomal Therapists (WCET) education program (NSWOCC, n.d.).

Across Canada, physiotherapists trained in pelvic health can provide assistance with managing the challenges related to UI and/or FI (CPA, 2018). Pelvic floor rehabilitation includes education, exercise, manual treatment techniques, biofeedback and/or electrical stimulation to deliver evidence-based behavioral treatments and pelvic floor muscle training (Scott et al., 2014).

The National Physiotherapy Entry-to-Practice Curriculum Guidelines require that physiotherapists possess foundational knowledge about urinary and fecal incontinence (Canadian Council of Physiotherapy University Programs, 2019). While all physiotherapy programs include this in their basic curriculum, some Canadian universities also offer specific training in pelvic health at the master’s level or through a comprehensive certificate program (C. Brown, personal communication, June 5, 2023). Additionally, private courses offered through Canadian and international teaching institutions offer post-graduate training for physiotherapists in various aspects of pelvic health (PhysicalTherapy.com, 2023; University of Alberta, 2023).

Pelvic floor physiotherapy is currently provided often as an out-of-pocket expense, yet it is increasingly becoming available through publicly-funded institutions (C. Brown, personal communication, June 5, 2023). The Institut national d’excellence en santé et en services sociaux (2022) recommends pregnant women, postpartum women and all other adult women (including those aged 55 years and older) have access to perineal and pelvic rehabilitation to treat or prevent UI.

Innovations

A growing number of innovative technologies are also available to manage incontinence. One such area is the development of smart phone applications (apps) to guide users through helpful exercises and help to locate public toilets (see box below).

Highlight on Mobile Phone Applications to Help Manage Incontinence

Tät is a free app that provides both information and advice about stress UI. It also features pelvic floor muscle training.[8] This app was found to be effective as first-line treatment; two-thirds of users in one study reported improvements in UI (Rygh, Asklund, & Samuelsson, 2020).

Flush is a free app that lets users to find public toilets, with over 200,000 toilets in its database. It is a worldwide resource that provides information on whether the toilets are accessible for those living with disabilities, whether there is a fee to use them, or whether they require a key. It provides the user with directions on how to get to the toilet, and there is an option to rate or report a toilet.[9]

Squeezy is an app designed by chartered physiotherapists who specialize in women and men’s pelvic health and is recommended by the United Kingdom’s National Health Service (NHS). It is a physiotherapy app for pelvic floor muscles. It mainly teaches Kegel exercises and maintains a record of what exercises have been done. It can be used by physiotherapists to plan out exercises for patients and provides an option to keep a symptom diary. It also sends reminders to a user’s smartphone or smart watch. There are different apps for men and women to ensure they receive the most relevant exercises for them. This one comes with a cost of £2.99 or $4.50 CAD.[10]

Crohn’s and Colitis Canada started the GoHere Washroom Access Program to improve washroom access for those living with Crohn’s disease or colitis. There are three components: a decal for participating businesses to display in their front window, allowing people to recognize their toilet is free and available; a free locator app to help people find the toilets; and an access card, which shows there is a medical need to use the toilet.[11]

The Australian Government Department of Health created The National Public Toilet Map, an app that provides information on approximately 19,000 publicly accessible toilets across the country. It allows users to find information on nearby toilets — including their location, accessibility, opening hours and facilities available (e.g. baby change and sharps disposal); search for toilets in places they will be visiting; and personalize results based on the user’s needs (Australian Government Department of Health, 2019).

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[8] https://apps.apple.com/ca/app/t%C3%A4t-pelvic-floor-exercises/id591599386

[9] https://apps.apple.com/ca/app/flush-toilet-finder-map/id955254528

[10] https://www.squeezyapp.com

[11] https://crohnsandcolitis.ca/Support-for-You/GoHere-Washroom-Access

A study of European urogynecologists and pelvic floor physiotherapists found that they have limited experience with eHealth applications (Kastelein et al., 2017). Only around 30 per cent had any experience with the use of biofeedback mechanisms for the management of stress UI. The majority of respondents, however, expressed a willingness to employ innovative solutions and improve the uptake of these first-line treatments for UI (Kastelein et al., 2017).

Electronic Monitoring Systems to Help Manage UI

Some systems can assess UI and track a person’s voiding patterns electronically through a sensor in their incontinence brief (HQO, 2018). The data is delivered to a secure server for staff to assess the patterns and amount of urine eliminated over a three-day assessment period (HQO, 2018). These data can be used to determine an ideal toileting routine for the individual and can help determine the most appropriate incontinence product, if necessary (HQO, 2018). At the time of the Health Technology Assessment at Health Quality Ontario (HQO) in 2018, there were two such incontinence products approved for use by Health Canada: the Smart Incontinence Monitor (SIM) by Simavita Limited and the TENA Identifi by SCA Personal Care (Essity) (HQO, 2018). This Health Technology Assessment (HQO, 2018) looked at the effectiveness of the SIM telemonitoring system, which places a sensor in a continence aid and captures all voiding events within a 72-hour period through a wireless network (Yu et al., 2014). As part of the study, staff of a nursing home were trained on implementing the monitoring system, as well as improving assessment and management of UI (Yu et al., 2014). After these steps were taken, staff demonstrated an increased awareness about UI prevalence and the need for individualized care plans for older adults living with incontinence (Yu et al., 2014). This study found that with the monitoring system in place, there was less urine voided into continence aids and more successful toileting visits (Yu et al., 2014). Prior to this intervention, people were being toileted about twice per day. Afterwards, they were toileted five to six times per day (Yu et al., 2014). This suggests that prior to the intervention, there was an over-reliance on continence products rather than toileting strategies to manage incontinence (Yu et al., 2014). It also suggests that before the telemonitoring system, there was often poor compliance with the implementation of continence plans among staff, with just under half of prescribed visits actually being implemented (Yu et al., 2014).

The assessment found that the costs to implement these technologies in nursing homes, for those who are eligible, would total approximately $6.4 million in the first year and $1.6 million in subsequent years (HQO, 2018). Other studies are under way to provide more data about electronic monitoring systems.

A 2023 study in Alberta looked into the impact of these electronic monitoring systems for older LTC home residents. This study provided training for staff in the use of this system. Data from this device, along with other health information, were used to develop continence care plans. Compared to routine practices in terms of continence assessment and care plan development, there was a significant change in the percentage of residents having a reduction in pad absorbency and cost of night pads used. Within the intervention group, not only were there a significant reduction in these outcomes, but also in leakage episodes and resident quality of life. These findings were supported by staff interviews, who also noted that such electronic monitoring systems allowed them to use their time for continence care efficiently and provide person-centered care consistently (Rajabali et al., 2023).

Policy Options to Better Address Incontinence

Age-Friendly Communities Prioritize Sufficient Numbers of Publicly Accessible Toilets

The WHO defines an age-friendly community as one in which “policies, services, settings and structures support and enable people to age actively” (WHO, 2007). One important aspect of creating accessible buildings and outdoor spaces is access to clean, conveniently located and accessible public toilets for those with varying abilities (WHO, 2007).

Greed (2003) refers to the “Golden Triangle” description of what makes an ideal public toilet, according to Singaporean toilet authorities: design, maintenance and education (Greed, 2003; Scoular, 2019). “Design” means the toilets must be accessible to and adequate for the full range of users; “maintenance” means the toilets need regular maintenance and checking; and “education” is needed for operators, maintenance crew and the public on how to use and maintain public toilets (Scoular, 2019; Greed, 2003).

There are currently no federal or provincial laws that require the provision of public toilets in Canada. However, some municipalities have bylaws that require businesses to provide public toilets (Dunham, 2016). For example, in Toronto, a bylaw requires retail establishments of a certain size (larger than 300 square metres or 3,230 square feet) to provide an accessible toilet with proper signage for public use (City of Toronto, 2018; City of Toronto, 2015). Other Canadian cities and organizations are trying to address the issue of lack of public toilets. This includes the GottaGo advocacy campaign, which is petitioning the City of Ottawa “for a network of, and signage to, safe, free, clean and environmentally responsible public toilets and water fountains that are accessible to persons of all abilities at major transit stops, key public places and parks” (GottaGoCampaign, 2020). The GoHere Washroom Access Program aims to improve public toilet access for those living with Crohn’s disease or colitis by providing businesses with a decal for their front window to show their toilet is free and available (Crohn’s and Colitis Canada, n.d) — see box above for more details. As those living with Crohn’s or colitis need to access washrooms many times per day and tend to face anxiety about having an accident, they share that similarity with those living with incontinence.

By contrast, many European cities, including London and Paris, have more effective access to public toilets (Dunham, 2016).

Continence Promotion Efforts in Health Care Settings

To better identify and manage continence-related issues across health care settings, a number of systemic changes are needed. This includes evaluating the quality and impact of guidelines, consensus statements and recommendations for best practices around continence care (Newman et al., 2023). Generally, these are created by professional organizations focused on providing both primary and speciality care (Newman et al., 2023). Raising awareness among clinicians can be challenging, and made more difficult by the conflicting recommendations currently presented in different guidelines (Newman et al., 2023). The RNAO in particular has been providing leadership in this area, including by publishing best practice guidelines that have been adopted by organizations around the world and by hosting various webinars and events on the topic (RNAO, n.d.)

One study in the Netherlands compared the current approach to continence care with the care described in the Optimum Continence Service Specification (OCSS), in which primary-care physicians or continence nurse specialists more actively detect cases in primary care (Holtzer-Goor et al., 2015). The OCSS also included an initial assessment and treatment process to be carried out by a continence nurse specialist, who would be responsible for working with home care agencies, care providers and unpaid caregivers (Holtzer-Goor et al., 2015). When continence nurse specialists were located in primary care, the study reported improvements in quality of life and cost savings of €402 per patient (about $600 CAD) over a three-year period (Holtzer-Goor et al., 2015).

Another study identified six recommendations for improving continence care for those living with dementia and FI in nursing homes: “clinician-led support, assessment and review; ongoing teaching, review and feedback to staff on how to reduce and manage FI; addressing the causes and prevention of constipation; interventions that reflect the degree of cognitive and physical capacity of the resident; common understanding of the potential for recovery and reduction of FI; and integrating care for people living with dementia and FI into everyday work patterns of the care home and staff” (Roe et al., 2017). Providing the best type of personal care for older adults living with dementia requires certain skills that can help to reduce distress and maximize comfort (Roe et al., 2017). Interventions that provide staff with sufficient support and appropriate authority to use their training would help to improve care of those living with dementia (Roe et al., 2017).

A study by Egbujie et al. (2022) of those living in complex continuing care (CCC) settings in Ontario found that bladder retraining led to significant improvements in UI for those that required any form of assistance with bed mobility. Other factors that led to improvements were starting any new medication in the past 90 days and triggering the interRAI Urinary Incontinence Clinical

Spotlight on a British Columbia Hospital Continence Initiative

At a Burnaby, B.C., hospital, a team of health care professionals aimed to change the culture of continence care and encourage continence education in order to address certain negative health outcomes such as skin breakdown and infections (Fraser Health, 2017). They wanted to reduce the use of continence briefs and thus ensured that the staff had access to a variety of incontinence products, including external urinary pouches, urinary condom catheters, fecal collection devices and urinals for women (Fraser Health, 2017). After that, the surgical units also eliminated the use of briefs and saw no urinary tract infections (UTIs) for the first few months; then the rest of the hospital (except the emergency department) also eliminated the use of briefs (Fraser Health, 2017). Burnaby Hospital went from eight referrals a day for continence-related wounds to six cases in three months, reduced their in-hospital UTI rates by 60 per cent, and reduced their in-hospital pressure injury rates by 66 per cent in two years, from 12 per cent in 2013 to four per cent in 2015 (Fraser Health, 2017). This protocol is now being adopted by other hospitals across the Fraser Health Authority (Fraser Health, 2017).

Assessment Protocol (UI CAP) to facilitate either improvement or prevent decline. Factors that were less likely to lead to improvements were being fully dependent for transfers, not being understood by others, living with three or more major health conditions, living with frailty, and increasing age (Egbujie et al., 2022). These findings suggest that the interRAI UI CAP can be helpful for identifying those that have the potential to improve their UI. Those who triggered the UI CAP to either prevent decline or to facilitate improvement were more likely to experience an improvement in their UI symptoms after 90 days, as care providers were likely able to identify areas of concern and then to develop a corresponding care plan to better address UI (Egbujie et al., 2022).

Using Portable Ultrasounds to Reduce the Incidence of Urinary Catheterization

Health Quality Ontario (HQO) conducted a technology assessment around the use of portable bladder ultrasounds or “bladder scanners,” which are transportable devices that use technology to register bladder volume and provide three-dimensional images of the bladder (Medical Advisory Secretariat, 2006). Their main use is to measure the post-void residual (PVR) urine volumes, which is the amount of urine left in the bladder after urinating (Medical Advisory Secretariat, 2006). This device, which enables health care providers to determine whether or not a patient is experiencing problematic urinary retention, helped to reduce unnecessary urinary catheterizations by 16 per cent to 47 per cent (Medical Advisory Secretariat, 2006). When catheters are necessary, the ultrasounds can be used to help place and remove them more accurately. In addition, the device can help manage and treat neurological conditions, establish voiding schedules, support bladder biofeedback therapies, reduce the number of urinary tract infections (UTIs) by 38 per cent to 72 per cent, and monitor for the presence of urinary retention after a surgery or trauma (Medical Advisory Secretariat, 2006).

In all but one study reviewed in this assessment, portable bladder ultrasounds were encouraged as an alternative to catheterization. An economic analysis also found that using the devices in continuing care facilities saved more than $192,000 per year per facility. This came to a total of $2.9 million for all 15 Complex Continuing Care (CCC) facilities that implemented it (Medical Advisory Secretariat, 2006). The devices cost about $17,000 to $20,000 each, with additional costs for other materials (e.g. batteries). However, this investment was found to be cost-effective because of the reductions in urinary catheterization equipment, nursing time, complications and UTIs (Medical Advisory Secretariat, 2006).

A recent study in Japan showed that not only did ultrasound-assisted prompted voiding significantly reduce daytime urine loss among incontinent LTC home residents compared to regular care but did not also increase burden for caregivers (Suzuki et al., 2019).

Coverage of Continence Products — In Canada and Internationally

Across Canada, the NIA found that there exists a significant level of variation in coverage of incontinence products to support people living with various forms of incontinence.

Table 5 below compares how coverage for incontinence products varies across Canada at the provincial and territorial level.

Table 5: Comparison of Incontinence Product Coverage Across Canada

Province	Products Covered
Alberta	- Provided through the *Alberta Aids to Daily Living (AADL) Program* - Albertans pay 25 per cent of the benefit cost to a maximum of $500 per individual or family per year. (Those with low incomes do not pay the cost-sharing portion.) - Once the person has been approved, they are provided with up to three AADL-approved vendors from which to obtain the product (Government of Alberta, n.d.). - Coverage includes incontinence briefs, liners, catheter supplies, injection supplies and ostomy supplies (Alberta Health, 2019). - There is also some coverage available through the *Assured Income for the Severely Handicapped (AISH)* (Government of Alberta, 2020).
British Columbia	- Medical supplies can be provided to eligible individuals under the *Employment and Assistance Regulation* and the *Employment and Assistance for Persons with Disabilities Regulation*. - Eligible items related to incontinence include, but are not limited to, incontinent briefs, pads, leg bags and skincare products (Government of British Columbia, n.d.).
Manitoba	- Adult incontinence supplies can be provided under the *Disability and Health Supports Unit (DHSU*), which provides guidelines for all is adults requiring continence products under the *Employment and Income Assistance and Community Living disAbility Services Program* when there is no home care. - A regulated health professional must complete a form on behalf of the person seeking coverage that justifies the need and requests the type and quantity of products needed. (Government of Manitoba, 2015)

New Brunswick	- The *Health Services Ostomy/Incontinence Program* provides some coverage for ostomy, catheterization and incontinence supplies which are not covered by other agencies or private insurance plans. - Eligible services are paid monthly; quantities and frequencies can be restricted. (Government of New Brunswick, n.d.).
Newfoundland and Labrador	- The *Special Assistance Program – Medical Equipment and Supplies* provides basic medical supplies and equipment, including incontinence supplies, to assist with ADL for individuals living in the community. (Government of Newfoundland and Labrador, 2019)
Northwest Territories	- The *Extended Health Benefits for Seniors Program* provides a range of benefits not covered by hospital and medical care insurance. To be eligible to apply you must be: aged 60 or over; Métis or Non-Indigenous; a permanent resident of the Northwest Territories; and have a valid NWT Health Care Card. - Older adults who wish to use this service have to apply for coverage that can cover the provision of incontinence products. - There is comparable coverage for Indigenous Métis residents through the *Métis Health Benefits Program,* and for First Nations and Inuit residents through Indigenous Services Canada’s *Non-Insured Health Benefits (NIHB) Program.* (Government of Northwest Territories, n.d.)
Nova Scotia	- The Nova Scotia Provincial Formulary covers drugs for urinary frequency and incontinence. - There is no specific coverage for incontinence pads or other products being provided. (Nova Scotia, 2021).
Nunavut	- There are benefits available through the NHIB program. Eligible clients must be a resident of Canada and any of the following: a First Nations person who is registered under the *Indian* Act; an Inuk recognized by an Inuit land claim organization; or a child less than 2 years old whose parent is an NIHB- eligible client(Government of Canada, 2021).
Ontario	- The Ontario *Assistive Devices Program* provides individuals with a long-term physical disability up to 75 per cent of the cost of the equipment and supplies. - The government is billed directly for 75 per cent of the costs and the individual must pay the remaining 25 per cent. (Queen’s Printer for Ontario, 2019)

Prince Edward Island	- Covered under Social Assistance and Assured Income programs based on financial eligibility and requires a prescription from a medical professional to identify need and quantity. - Covered under *AccessAbility Supports* program for eligible clients. (Personal Communication, 2020)
Quebec	- The Quebec *Assistive Devices Program for Persons with a Physical or Intellectual Disability or an Autism Spectrum Disorder (ASD)* is reserved for those who have a physical or intellectual disability. - Certain supports will be covered, including coverage of incontinence products. If the request is granted, approved products will be provided for free or their costs will be reimbursed. (Gouvernement du Quebec, 2021).
Saskatchewan	- Saskatchewan's *Supplementary Health Benefits Program* provides support for those in government wards, correctional institutions and special care facilities, and those in certain income support programs. - Under this program, incontinence aids (except pads, incontinent briefs) may be provided if a physician or authorized health professional prescribes them. (Saskatchewan, n.d.)
Yukon	- No specific criteria - Look to *NIHB* and British Columbia for criteria and pricing to adjudicate coverage. - The Continuing Care branch of Health and Social Services pays for incontinence supplies in long-term care. (Personal Communication, 2020).

Internationally, there are large variations in coverage of incontinence treatments, beyond the standard medications and surgeries that are often covered through both public and private health-insurance plans.

The Danish National Health Service (DNHS) reimburses the cost of, and even delivers, incontinence products that are prescribed by doctors (Cornago & Garattini, 2001). In this system, nurses provide advice on the different products available and even conduct home visits to help manage any side effects related to using them, including skin irritation (Cornago & Garrattini, 2001). Pads that individuals purchase independently are not eligible for reimbursement. At the time of the study, it was estimated that of the 390,000 Danes living with incontinence, 100,000 were being supported with publicly funded products (Cornago & Garattini, 2001).

In France, individuals in hospitals or nursing homes receive incontinence products for free. Products that are independently purchased are not reimbursed (Cornago & Garattini, 2001). When home care is required, a number of options are available, including one that covers all the costs related to incontinence products and one that provides delivery but does not cover the cost of products (Cornago & Garattini, 2001). In this system, prescriptions are not required to receive coverage for these products (Cornago & Garattini, 2001).

In Germany, individuals with incontinence associated with a confirmed chronic condition are entitled to receive free products (Cornago & Garattini, 2001). At the time of the study, of the estimated six million Germans living with incontinence, 1.8 million (30 per cent) were entitled to be reimbursed for the costs of their incontinence products (Cornago & Garattini, 2001).

In Italy, individuals can be reimbursed for up to 150 incontinence-related items per month (Cornago & Garattini, 2001). In this system, a prescription is required for coverage, with the first one generally coming from a specialist (Cornago & Garattini, 2001).

In Australia, the Continence Aids Payment Scheme (CAPS) is a yearly non-taxable payment that can be used to cover the cost of incontinence products for those with permanent and severe incontinence confirmed by a health care professional (Australian Government, 2021). Individuals must apply and be approved for coverage, which can amount to upwards of $650.40 AUD ($590 CAD) per person annually. This can be deposited directly to their bank account and is not counted as taxable income (Australian Government, 2022).

Australia also established a Continence Helpline. This free service is staffed by continence nurse advisors who provide information, advice and support for those living with incontinence (Continence Foundation of Australia, 2021b). It is available from 8 a.m.-8 p.m., Monday to Friday (Continence Foundation of Australia, 2021b).

In the U.K., a guidance document prepared for the NHS called “Good practice in continence services” says that integrated continence services should be based on the provision of continence advisory services, ensure that both care recipients and unpaid caregivers are consulted when determining services, attempt to identify cases of incontinence, enable treatment, and allow easy access to a specialist when it is needed (Department of Health [DH], 2000). Continence services should raise awareness, find those living with incontinence, conduct an initial assessment, create and review a treatment plan, supply continence pads, help carers and provide specialist services (DH, 2000).

A review of continence services, however, noted that there are variations among NHS hospitals in the type, quality and quantity of continence products available to those living with incontinence (DH, 2000). The review said continence products should only be used after an assessment has been completed and a management plan has been created. The goal is to avoid the premature use of products, as it can create an unnecessary dependence on them and a reluctance to try different treatments that may be beneficial (DH, 2000).

If it is determined that a product is needed, patients should have access to a full range of products, and their need for products should regularly be reviewed (DH, 2000). The study further emphasized that continence care should be delivered by nurses and physiotherapists who specialize in continence, who should also be responsible for providing the products (DH, 2000).

Finally, the review noted that for those living in designated buildings — including nursing homes or retirement homes — assessments should be provided by trained professionals, there should be better access to toilets, and initial treatment should include approaches such as bladder training, managing impaction, providing continence supplies and appropriately using catheters (DH, 2000).

A Spotlight on Scotland

The NHS Greater Glasgow and Clyde in Scotland has a program called SPHERE Bladder and Bowel Service, which uses teams to promote continence by educating those living with incontinence on behavioural and lifestyle changes that promote bladder and bowel health. The service has two specially trained teams composed of specialist nurses and physiotherapists. People can be referred to the service by their family physicians (NHS Greater Glasgow and Clyde, n.d.a). This program may provide a prescription for incontinence pads as a temporary approach while trying other treatment options (NHS Greater Glasgow and Clyde, n.d.b.).

The NHS Lanarkshire decided to promote continence care in two care homes by introducing a continence promotion care bundle (CPCB). The program consists of five key interventions:

- documented continence assessment, which identifies the type of incontinence;
- documented outcome of toilet assistance (episodes of incontinence);
- documented fluid intake;
- documented caffeine reduction; and
- documented medication review.

This program was found to reduce episodes of incontinence, reduce product use, and lead to less distress, improved record-keeping and more time spent with residents. There was also a 40-65 per cent reduction in falls, 50 per cent reduction in UTIs, 30 per cent reduction in skin damage and 40 per cent reduction in unplanned hospital admission for falls and UTIs. Bundle audit cycles were performed weekly, randomly sampling 10 residents’ records each time to understand and improve the compliance with CPCB program (The Health Foundation, 2017).

Evidence-Informed Policy Recommendations

1. Increase efforts to raise public awareness and reduce stigma around incontinence

There are still too many Canadians who believe that incontinence is a normal part of ageing. It is important to increase levels of public awareness and create a better understanding about the fact that incontinence is preventable and treatable. If it were better recognized, more people could be supported to remain independent, productive and engaged citizens as they age. The Public Health Agency of Canada (PHAC) and other public health agencies should support public education to improve knowledge of this important health issue that will continue to affect a rapidly growing number of Canadians.

Current messaging seems to normalize incontinence and makes people feel that they can, and should, live with it. It does not emphasize that incontinence can be prevented and treated, and not simply managed with the use of continence products. Public awareness campaigns should focus on building awareness around prevention and treatment, and reducing the stigma associated with the condition for patients, unpaid caregivers and care providers.

There are some Canadian evidence-based self-management tools that may be useful for those who are looking for information on urinary incontinence and next steps — for example, “Mind Over Bladder” and “Urinary Incontinence Decision Aid,” created by the RNAO.

Many unpaid caregivers are living with the reality of caring for someone with incontinence. It is important that they also understand that incontinence is preventable and treatable and that there are options available to alleviate the issue for both the caregiver and their care recipients.

The public has been increasingly turning towards the internet and social media to better understand incontinence. It is vital to ensure that reliable information is easily available on the internet from trusted sources (Newman et al., 2023). Different groups should be consulted when developing education and awareness initiatives, as there will likely be a need to adapt information depending on age, gender and cultural considerations (Newman et al., 2023).

Recently, PHAC led the development of a national dementia strategy for Canada. As incontinence is highly correlated to dementia, Canada’s National Dementia Strategy offers a unique opportunity to further raise awareness around incontinence and its relationship with falls and the risk of institutionalization.

2. Improve resources and educational opportunities for health and care professionals

Education for health and care professionals should focus on developing a better understanding of incontinence and better equipping them to effectively care for people living with this condition. Health care providers should be made particularly aware of the stigma and barriers many feel about discussing UI and FI and should be sensitive to this (Wagg et al., 2023b). Professionals should ask about continence more routinely, and earlier, in order to encourage better identification and management of UI and FI. This could start with the promotion of lifestyle modifications, general and specific exercises, and other behavioural or non-pharmacological approaches, as well as medication reviews. These options should be used as the first lines of treatment.

Health care professionals, especially those providing care in primary, acute and long-term care settings, should also feel comfortable understanding when additional pharmacological interventions are needed, as well as when to seek a specialist’s consideration around surgical management options. Both the potential benefits and risks must be considered. Health care professionals should also be supported in providing or referring their patients and their unpaid caregivers to educational materials that can further strengthen their understanding.

3. Encourage quality and standards organizations, such as the Health Standards Organization (HSO), to incorporate and promote evidence-informed practices and measures to better address and manage incontinence

It is important for organizations such as the Health Standards Organization (HSO) and Accreditation Canada to consider creating and instituting Required Organizational Practices (ROPs) around the assessment and management of incontinence in appropriate care settings. It is well established that when accrediting bodies emphasize the need for ROPs in a certain area, it is more likely to become an area of focus. Incontinence is a widespread issue within a variety of health care settings and has been shown to affect patient, staff and system outcomes. This makes a compelling case for accrediting bodies to create a series of ROPs around both promoting continence as well as identifying and managing incontinence. This would undoubtedly encourage health care provider organizations and their staff to better identify and recognize incontinence. It could also encourage the better collection of prevalence data, which would support tracking changes related to the management of incontinence-related issues. Simultaneously, it would likely incentivize and encourage health care organizations to increase the promotion of continence and the reduction of incontinence. There are clear examples in Canadian settings of systematic approaches resulting in significantly improved patient outcomes.

CIHI has established measures to look at an individual’s continence status through the use of interRAI assessments[12] in Canadian nursing or long-term care homes, and for those receiving home and community care. The uptake of interRAI assessment in acute-care settings, or the adoption of similar measures to examine continence status in a variety of settings, could also facilitate better reporting, management and treatment of incontinence across Canada.

4. Promote research and knowledge translation of best practices to manage and treat incontinence

By encouraging better data collection around incontinence, it will be become easier to understand its prevalence and the wide-ranging impact on individuals living with incontinence, their unpaid caregivers and paid care providers. This will enable a better understanding of the most effective management and treatment options for different types of incontinence. It will also provide insight into the most effective ways to adopt, spread and scale best practices in doing so.

One effective strategy would be to encourage appropriate health care settings to assign a designated continence champion or advisor. This could include hospitals, nursing homes, assisted-living or supportive-living environments, and others. The expert or champion could provide advice at an organizational level to create appropriate standards that are setting-specific, offer knowledge about assessments for proper management of incontinence, and provide appropriate support for staff, patients and residents around continence care. In jurisdictions around the world, specially trained nurse continence advisors are filling this role and enabling the implementation of better continence care.

5. Ensure the availability of publicly accessible toilets, as part of the creation of more age-friendly communities

The creation of more accessible communities is essential, as a lack of accessibility can lead to the social isolation of many older adults. Creating more accessible communities often means reducing the physical barriers that may limit the participation of people who are living with incontinence and creating environments that are more responsive to the growing prevalence of continence issues among older Canadians. Ensuring better and more strategic access to public washrooms, including in the

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[12] “interRAI is a collaborative network of researchers and practitioners in over 35 countries committed to improving care for persons who are disabled or medically complex.” (interRAI, n.d.) They create instruments for a variety of assessments that collect information at points of care in a variety of settings across Canada (CIHI, n.d.).

development of public transportation infrastructure, will further enable those living with incontinence to navigate their communities more safely and easily.

6. Promote greater equity around funding support to manage incontinence

In addition to the increasing numbers of people living with incontinence, there are also growing affordability issues. If an individual is unable to afford continence products, their ability to leave their home may be limited. Individuals are already making certain care decisions because of affordability issues (e.g. delaying changing their pad or undergarment, or choosing a less expensive, but less appropriate, continence product) (HQO, 2018; Smith et al., 2019).

It is important that individuals living with incontinence are provided with appropriate and accessible coverage to meet their basic needs, regardless of the setting where they live. While some forms of public support are in place in certain provinces and territories across Canada, they are far less comprehensive than the coverage systems in countries such as Australia. While there is an opportunity to re-examine the coverage being provided at the provincial and territorial levels, it is clear is that coverage needs to be embedded into a system that requires a formal, comprehensive assessment of needs. This can help to significantly reduce, or even eliminate, incontinence issues before the need for providing continence products arises. Beyond the limited financial supports that are currently available, some Canadians view the new Canada Caregiver Credit — as well as some of the provincial/territorial caregiver benefits — as a way to offset some of the costs of continence supplies, which are typically borne by unpaid caregivers.

Across Canada, there is a growing trend in provinces and territories to target specific funding initiatives to benefit low-income older adults (e.g. Ontario covering essential dental services for low-income older adults), particularly where costs could be an undue burden. Currently, programs appear to be in place for those with disabilities. However, with estimates suggesting people are spending between $1,400 and $2,100 annually on continence products (Cameron Institute, 2014b), this creates a large burden for low-income individuals and could drive premature entry into a publicly funded nursing home, where the costs of these products are fully covered.

As we know, CIHI (2013) found approximately 70 per cent of nursing home residents in Canada experienced UI and approximately half (49 per cent) experienced FI. It is clear that incontinence is a trigger for nursing home placement. As long as inequities in coverage exist for the provision of continence products between those in nursing homes and in the community, there will remain a perverse incentive to prematurely and inappropriately institutionalize people. Publicly funded provincial and territorial home care systems must improve coverage of continence products to break this tragic cycle.

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