



THE CANADIAN CONTINENCE FOUNDATION

Equity in access to pharmacological treatments for overactive bladder and urgency urinary incontinence in Canada



OVERVIEW AND BACKGROUND

The primary aims of this paper are to:

- Raise awareness of the adverse impact of urinary incontinence, overactive bladder and lower urinary tract symptoms on millions of Canadians
- Illustrate the impact of these conditions on quality of life, economic productivity and health resource use
- Inform policy makers and service providers of the available therapeutic options and highlight the current limitations on accessibility of these options across the country, including treatments that received a positive recommendation from the Common Drug Review (CDR)
- Suggest solutions to the current shortfalls in access and choice

Urinary incontinence (UI), overactive bladder (OAB), urgency incontinence (UUI) and lower urinary tract symptoms are incredibly common in the population. Overactive bladder affects 12–17% of all adult men and women^{1,2}. About 28% of men and 49% of women reporting OAB symptoms also report incontinence with the vast majority being

UUI¹. In Canada, it is estimated that 1:20 men and 1:10 women suffer with UI and 13.1% of men and 14.7% of women have OAB³. For many, these symptoms are acutely embarrassing and distressing, with a profound impact on their lives, often resulting in social isolation and depression. Additionally, OAB and UUI have an impact on economic productivity, causing sufferers to take time off work or leave the workforce altogether⁴. The total excess cost of OAB in Canada, excluding

nursing care and lost productivity, was estimated at \$576,230,678 (€379 099 130) in 2009, while the additional costs due to loss of economic productivity were estimated at \$65,000,000 (€42,763,158) that same year⁵.

It is well recognized that increasing and competing demands on health and social care budgets, coupled with the aging of the Canadian population, will lead to increased demands for resources. Growing awareness of health matters on the part of older people will additionally lead to greater demands for services and treatments. Overactive bladder and UI are clear examples of such issues.

Non-drug therapies (bladder training, urgency suppression, pelvic floor muscle training, and education on bladder control strategies) are generally advocated as first-line therapy for OAB and UUI according to the most recent guidelines of the Canadian Urological Association amongst other national and international guidelines⁶. When conservative therapies fail or are judged less likely to succeed, drug therapy is either used as the next step or in combination. Yet publicly funded access to drug therapy for OAB and UUI varies significantly across the provinces and territories, with the accessibility of effective pharmacological therapies often limited on the basis of cost acquisition of these medications. Such policies restrict access to newer, more tolerable medications and lead people who may benefit from active pharmacological therapy to be lost to treatment, leaving them to suffer in silence.

".....I am a 71 year old man and all my life no one has ever had to help me with my toileting and suddenly my son had to help me. That was when I lost my dignity". H 71y

"you've very little dignity left when you're incontinent, very little, and that is all sort of you know, part of it" M, 68y

Associated Health Consequences of Urgency Incontinence and Overactive Bladder

Urinary urgency and UUI are not the benign conditions often assumed. The adverse effect on health related quality of life is well recognised and is equivalent to the impact of other chronic diseases such as diabetes mellitus, high blood pressure and heart failure. Overactive bladder symptoms significantly disrupt daily activities, sleep, mental health and personal relationships. Urgency and UI are associated with an increased risk of falls and fracture, even if only a weekly episode is reported²⁴. Urinary incontinence is also associated with significant depression and anxiety in sufferers²⁵, as well as in older spousal caregivers of those with incontinence, related to the burden of care²⁶. Other conditions such as skin infections and skin breakdown, and urinary tract infections are also reported more commonly by those with OAB. Urinary incontinence is a significant factor in the decision by informal caregivers to institutionalise older persons²⁷. This is even more powerful a risk factor when the older adult is living with a dementia diagnosis²⁸.



The Changing Face of **INCONTINENCE IN CANADA**

In a Canadian survey, 13% of men and 15% of women aged between 18-90 years of age reported UUI. As the Canadian population ages, diseases which are associated with aging will become increasingly common. Large epidemiological studies from which such figures are drawn exclude frailer old people, in whom these conditions are even more common. Estimates in older people suggest that 30-40% of those aged >75 years will suffer with the condition^{7,8}.

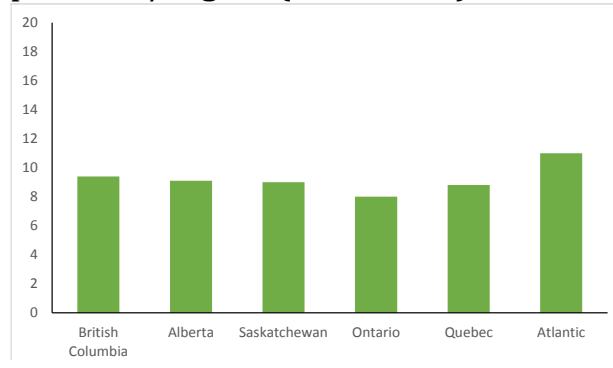
Overactive Bladder and Urinary Incontinence

Diagnostic conditions leading to incontinence may be differentiated into three main underlying conditions: stress urinary incontinence; the loss of urine on physical exertion or effort, urgency incontinence; the loss of urine associated with urgency, and mixed urinary incontinence - a combination of the two conditions. These 3 types account for the majority of incontinence diagnoses with which patients suffer.

- **Stress (exertional) urinary incontinence** is more common in women. Risk factors include pregnancy and childbirth, particularly complicated delivery, and obesity. There is a familial component to the condition. Stress urinary incontinence comes about because of either a lack of support from the pelvic floor, or from damage to the sphincter mechanism which prevents the bladder from leaking urine under conditions of excess pressure in the abdomen. Stress urinary incontinence in men most often occurs as an adverse effect of prostatic or other types of pelvic surgery. Symptoms include leaking urine with coughing, sneezing, laughing, lifting, etc.
- **Urgency urinary incontinence** may result from severe bladder overactivity associated with a sudden urgency and inability to hold the urine back from leaking. It may be a consequence of systemic diseases such as metabolic syndrome, diabetes mellitus or conditions such as Parkinson's disease. But for many individuals, urgency incontinence occurs without a known cause.
- **Mixed incontinence** is a combination of both exertional (or stress) incontinence and urinary urgency incontinence; both conditions co-existing.

Additionally, urinary urgency without incontinence, often with accompanying frequency and nocturia, is recognised as **overactive bladder** or the frequency-urgency syndrome. The excessive frequency often results from voluntary coping strategies (emptying the bladder "just in case") adopted by patients to deal with the threat of incontinence. Overactive bladder results in incontinence in approximately a third of patients with the condition, but in a higher proportion of older persons, who appear to experience more severe urgency than the young. Urgency urinary incontinence is also more common in women until very late life.

Percentage of Canadian adults answering yes to the Question "Do you currently have a urinary or bladder control problem?" by province/region (from Ref 3)



In 2009, the cost of care for OAB in Canada was estimated at \$576,230,678 (€379 099 130). Overactive bladder sufferers are also less economically active, having an excess of absenteeism from the workforce. The additional costs due to loss of economic productivity were estimated at \$65,000,000 (€42,763,158) that same year⁵.

There is ample evidence that the "baby boomer" generation, accounting for 9.6 million Canadians, will become more demanding of their health care services, as disease awareness and education improves, leading to increased pressure on the system. Additionally, all governments wish to promote an economically active older workforce, lessening the pressures on the public purse. Furthermore, the rate of institutionalization is higher in men and women with UUI versus those without UUI⁹. UUI is an independent predictor of institutionalization in men⁹. The per capita cost of UUI increases with age¹⁰, with many of the costs attributable to absorbent products and nursing home care^{10,11}. The prevalence and associated costs will undoubtedly rise as the proportion of older people in the population rises¹⁰⁻¹². Ensuring publicly funded access to adequate and effective treatments for OAB and UUI will necessarily form part of a coherent strategy to reduce the cost and impact of this condition. Using data from a managed care sample, increasing adherence to pharmacological treatment was the strongest predictor of decreased health care costs, with a 10% increase in adherence associated with a 6% decrease in total annual health care costs¹³.

OVERACTIVE BLADDER

Treatments

The mainstay of pharmacological treatments for OAB and UUI are drugs called the antimuscarinics. Oxybutynin is the oldest member of this class of drugs. It is effective, but has the worst side effect profile of the group¹⁴. Adverse effects occur in up to 80% of patients given the immediate-release formulation¹⁵. Dry mouth is extremely common and may be disabling. Concern over dry mouth led to a formal warning about the detrimental effects on oral health in older persons who take oxybutynin. Other side effects such as blurred vision, symptoms of generalized sedation and weakness, and constipation were reported in trials¹⁶⁻¹⁸. In older patients, constipation affects tolerability and quality of life, but can also lead to more serious consequences, including fecal impaction, anal incontinence and angina¹⁹. In clinical practice, the majority of older people

“I would rather live with incontinence, than suffer the dry mouth side effects of all the medications I have tried” H, 59y

simply do not tolerate this medication in therapeutic doses, leading to withdrawal from treatment and a delay in obtaining a more effective drug. Failed use of oxybutynin also makes some older people less likely to want to take medication for their overactive bladder, despite evidence that older people are more likely to require pharmacological therapy to control their symptoms than younger patients²⁰.

Importantly, there are now a number of newer antimuscarinic agents for the treatment of OAB and UUI. Drugs such as darifenacin, fesoterodine, tolterodine, solifenacin, and trospium have all been introduced with the single aim of making the treatment more tolerable, while maintaining comparable efficacy to that of oxybutynin. The effect of each agent has been proven versus a placebo medication and there have been additional head to head studies, mostly comparing the effect of the newer agents to tolterodine. The majority of clinical studies for these agents have been of twelve weeks duration. On average, approximately 45-50% of patients experienced resolution of their urgency and UUI. Longer, up to one year, continuation studies have shown that treatment effects are sustained over that time with no new, unexpected side effects^{21,22}.

The side effect profile of the newer drugs are similar in terms of the type of adverse effects, with dry mouth and constipation predominating¹⁴. However, the prevalence of dry mouth experienced with the newer agents is lower and more likely to be much milder than the effects of oxybutynin.

Newer drugs tend to be either long acting or formulations which allow once daily dosing to aid adherence. Latterly, the introduction of low and high doses and information about which patients might respond best to which dose has improved the ability of clinicians to tailor treatments to individual patients. More recently, the introduction of a drug which acts by a novel mechanism of action with no antimuscarinic side effects, mirabegron, has opened opportunities for treatment of hitherto intolerant patients in addition to those who might be susceptible to antimuscarinic side effects by virtue of comorbid disease (for example Parkinson's disease). Finally, should patients fail to respond to two medications, given an ample trial, then they may be eligible for injections of onabotulinumtoxinA, a neurotoxin, into the bladder as the next stage of treatment.

Many sufferers of OAB are older adults and unfortunately, antimuscarinic drugs have been associated with an adverse effect on cognitive function in this patient population. Oxybutynin in particular has been associated with impaired cognition in clinical studies expressly designed to examine the cognitive effects of newer bladder antimuscarinics in older people. Yet the newer antimuscarinic agents appear to be safe in older persons with intact cognition and in those with mild cognitive impairment²³. There are no data on cognition and mirabegron, but since the receptor upon which the drug acts does not appear to be present in the human brain in any great quantity, it is unlikely that there will be any impairment.



Delivering Equitable, Effective Care to Patients with Overactive Bladder and Urgency Incontinence: Problems and Solutions

PROBLEM

Inequities in public reimbursement and lack of immediate access to more than one treatment option for OAB patients

SOLUTION

Equitable access to all OAB drugs that have received a positive recommendation from CDR should be ensured across the publicly funded drug plans in Canada.

PROBLEM

Restricted options for OAB patients who rely on public funding of medications

SOLUTION

Restrictions on the use of all newer antimuscarinic agents should be rescinded and the “oxybutynin bar” should be removed. This is particularly important in older persons for whom oxybutynin is the least suitable treatment option.

PROBLEM

Physicians are restricted in what they can prescribe for many of their OAB patients

SOLUTION

Choice of treatments should be available to treating clinicians. It is well recognised that individualised treatments produce optimal results.

Provincial and territorial formulary processes should be made transparent, with the opportunity for specialist physicians, along with patient groups, to make representations to formulary committees across the country.

Provincial and territorial authorities should form specialist advisory bodies with expertise in the area of OAB and UI to advise them as newer agents are approved by Health Canada and reviewed by CDR.

PROBLEM

Acquisition cost determines OAB drug coverage for patients

SOLUTION

A wider perspective on the cost of incontinence to the person, the caregiver and society at large should be adopted in any cost model used to determine public reimbursement.

“Even my best friend; he doesn’t know and I have no intention of telling him. So you can imagine how choked up you can be with it, do you know what I mean?” G, 73y

Inequity in publicly funded access

People living with certain diseases frequently face unfair, unequal treatment based on the type of condition they have. The problems of incontinence and overactive bladder are often not taken seriously by policy makers. Patients have no strong voice; not only are there patient related barriers to seeking care (incorrect perception that it’s normal for age, fear of surgery being seen as the only treatment option, unaware of effective treatments), but they face therapeutic nihilism on the part of clinicians, often based upon beliefs about the side effects and tolerability of existing medications. Additionally, policy makers often believe that conditions leading to urinary incontinence are in some way not diseases, but quality of life issues, not warranting a proactive approach. There are thus many barriers to gaining fair access to treatment for UI and OAB. Canada’s provinces and territories unfortunately compound the problem by restricting publicly funded access to proven therapeutic solutions for OAB and UUI.

Reimbursement for **OVERACTIVE BLADDER** Treatment



In all Canadian provinces and territories, patients with OAB who require pharmacological therapy for their disease must be prescribed oxybutynin as an initial treatment and are only able to access newer medications after this approach has failed or is not tolerated. In BC it’s even more restrictive; only oxybutynin is publicly funded. This policy exposes a predominantly older group of patients to potentially avoidable harms and also increases the likelihood of patients receiving either no treatment or ineffective treatment for their condition.

Data from Canadian public and private drug plans show that oxybutynin is associated with the lowest rate of adherence of all of the bladder antimuscarinic medications, leading patients to be lost to therapy, the majority never seeking a second option²⁹. Newer medications in the antimuscarinic drug class, such as darifenacin, fesoterodine, solifenacin, tolterodine and trospium, have equal efficacy in clinical studies and reduced levels of side effects³⁰. They are also associated with a higher proportion of patients taking them in the longer term^{29,31}. Evidence strongly suggests that an individualised approach to treatment, including, where necessary, switching medications to suit the patient, results in the optimal treatment response.

Recently, the first of an even newer class of medications for OAB has been approved for use in Canada. This drug, mirabegron, is not an antimuscarinic and does not have the typical antimuscarinic side effects such as dry mouth and constipation, which commonly lead to patients stopping the medication. Early evidence from private drug plans suggests that patient persistence with this newer medication is higher than with the antimuscarinics, potentially allowing a greater proportion of patients to benefit from effective treatments. Mirabegron also recently received a positive recommendation from CDR, which noted that it should be publicly funded for patients who are intolerant or have an inadequate response to an adequate trial of an anticholinergic therapy.

Publicly funded access to medications for OAB is truly discriminatory, with seemingly only the acquisition cost of drug treatment of concern to governments. The fact that most patients are required to initially try oxybutynin, ignores the highest rates of adverse events associated with any drug of its class, the high likelihood of stopping the medication and the high risk of being lost to treatment. The wider social and economic costs of the untreated condition, which do not appear relevant to policy makers must be considered.

What does this mean for those with the condition?

People with bladder problems and UI suffer in silence. Incontinence is one of the last taboos, seldom talked about in public. For some, mention of the condition is likely to produce mirth, pushing sufferers further into the background. People with OAB and UUI face loss of control in the workplace and adopt abnormal coping strategies to allow them to function normally. The fear of “being caught short” motivates many of these behaviours. Some sufferers report being driven from their work because of victimisation, fear of odour or becoming figures of fun. Workers with no control over bathroom breaks report stress and anxiety related to their condition, spousal caregivers for older adults report marked changes in their relationships and there is a sense of burden equivalent to clinical depression in up to a third of cases. Older people with incontinence are more likely to be institutionalised than those without the disease, often at great cost to the public purse. This simply cannot and should not be permitted to continue. It’s time for tangible solutions for those with OAB, UUI and urinary incontinence in general.



Jacqueline Cahill
Executive Director
159 King Street, Suite 110
Peterborough, Ontario
K9J 2R8

PHONE: 705-750-4600
TOLL FREE: 1-800-265-9575
EMAIL: jcahill@canadiancontinence.ca
www.canadiancontinence.ca





THE CANADIAN CONTINENCE FOUNDATION

1. Irwin DE, Milsom I, Hunskaar S, et al. Population-based survey of urinary incontinence, overactive bladder, and other lower urinary tract symptoms in five countries: results of the EPIC study. *Eur Urol.* Dec 2006;50(6):1306-1314; discussion 1314-1305.
2. Stewart WF, Van Rooyen JB, Cundiff GW, et al. Prevalence and burden of overactive bladder in the United States. *World J Urol.* May 2003;20(6):327-336.
3. Herschorn S, Gajewski J, Schulz J, Corcos J. A population-based study of urinary symptoms and incontinence: the Canadian Urinary Bladder Survey. *BJU Int.* Jan 2008;101(1):52-58.
4. Coyne KS, Sexton CC, Irwin DE, Kopp ZS, Kelleher CJ, Milsom I. The impact of overactive bladder, incontinence and other lower urinary tract symptoms on quality of life, work productivity, sexuality and emotional well-being in men and women: results from the EPIC study. *BJU international.* Jun 2008;101(11):1388-1395.
5. Irwin DE, Mungapen L, Milsom I, Kopp Z, Reeves P, Kelleher C. The economic impact of overactive bladder syndrome in six Western countries. *BJU Int.* Jan 2009;103(2):202-209.
6. Bettez M, Tu, L. M., Carlson, K., Corcos, J., Gajewski, J., Jolivet, M., Bailly, G. Guidelines for Adult Urinary Incontinence Collaborative Consensus Document for the Canadian Urological Association 2012.
7. Wennberg AL, Molander U, Fall M, Edlund C, Peeker R, Milsom I. A Longitudinal Population-based Survey of Urinary Incontinence, Overactive Bladder, and Other Lower Urinary Tract Symptoms in Women. *Eur Urol.* Jan 13 2009.
8. Malmsten UG, Molander U, Peeker R, Irwin DE, Milsom I. Urinary incontinence, overactive bladder, and other lower urinary tract symptoms: a longitudinal population-based survey in men aged 45-103 years. *Eur Urol.* Jul 2010;58(1):149-156.
9. Nuotio M, Tammela TL, Luukkaala T, Jylha M. Predictors of institutionalization in an older population during a 13-year period: the effect of urge incontinence. *J Gerontol A Biol Sci Med Sci.* Aug 2003;58(8):756-762.
10. Ganz ML, Smalarz AM, Krupski TL, et al. Economic costs of overactive bladder in the United States. *Urology.* Mar 2010;75(3):526-532, 532 e521-518.
11. Reeves P, Irwin D, Kelleher C, et al. The current and future burden and cost of overactive bladder in five European countries. *Eur Urol.* Nov 2006;50(5):1050-1057.
12. Irwin DE, Kopp ZS, Agatep B, Milsom I, Abrams P. Worldwide prevalence estimates of lower urinary tract symptoms, overactive bladder, urinary incontinence and bladder outlet obstruction. *BJU Int.* Oct 2011;108(7):1132-1138.
13. Balkrishnan R, Bhosle MJ, Camacho FT, Anderson RT. Predictors of medication adherence and associated health care costs in an older population with overactive bladder syndrome: a longitudinal cohort study. *J Urol.* Mar 2006;175(3 Pt 1):1067-1071; discussion 1071-1062.
14. Buser N, Ivic S, Kessler TM, Kessels AG, Bachmann LM. Efficacy and adverse events of antimuscarinics for treating overactive bladder: network meta-analyses. *European Urology.* Dec 2012;62(6):1040-1060.
15. Baigrie RJ, Kelleher JP, Fawcett DP, Pengelly AW. Oxybutynin: is it safe? *Br J Urol.* Oct 1988;62(4):319-322.
16. Riva D, Casolati E. Oxybutynin chloride in the treatment of female idiopathic bladder instability. Results from double blind treatment. *Clin Exp Obstet Gynecol.* 1984;11(1-2):37-42.
17. Thuroff JW, Bunke B, Ebner A, et al. Randomized, double-blind, multicenter trial on treatment of frequency, urgency and incontinence related to detrusor hyperactivity: oxybutynin versus propantheline versus placebo. *J Urol.* Apr 1991;145(4):813-816; discussion 816-817.
18. Tapp AJ, Cardozo LD, Versi E, Cooper D. The treatment of detrusor instability in post-menopausal women with oxybutynin chloride: a double blind placebo controlled study. *Br J Obstet Gynaecol.* Jun 1990;97(6):521-526.
19. Gallagher P, O'Mahony D. Constipation in old age. Best practice & research. *Clinical gastroenterology.* 2009;23(6):875-887.
20. Choo MS, Song C, Kim JH, et al. Changes in overactive bladder symptoms after discontinuation of successful 3-month treatment with an antimuscarinic agent: a prospective trial. *J Urol.* Jul 2005;174(1):201-204.
21. Wagg A, Khullar V, Michel MC, Oelke M, Darekar A, Bitoun CE. Long-term safety, tolerability and efficacy of flexible-dose fesoterodine in elderly patients with overactive bladder: Open-label extension of the SOFIA trial. *Neurourology and Urodynamics.* Jan 2014;33(1):106-114.
22. Haab F, Cardozo L, Chapple C, Ridder AM. Long-term open-label solifenacin treatment associated with persistence with therapy in patients with overactive bladder syndrome. *European Urology.* Mar 2005;47(3):376-384.
23. Wagg A. The cognitive burden of anticholinergics in the elderly- implications for the treatment of overactive bladder. *European Urology Review.* 2012;7(1):42-49.
24. Brown JS, Vittinghoff E, Wyman JF, et al. Urinary incontinence: does it increase risk for falls and fractures? Study of Osteoporotic Fractures Research Group. *J Am Geriatr Soc.* Jul 2000;48(7):721-725.
25. Zorn BH, Montgomery H, Pieper K, Gray M, Steers WD. Urinary incontinence and depression. *J Urol.* Jul 1999;162(1):82-84.
26. Cassells C, Watt E. The impact of incontinence on older spousal caregivers. *J Adv Nurs.* Jun 2003;42(6):607-616.
27. Thom DH, Haan MN, Van Den Eeden SK. Medically recognized urinary incontinence and risks of hospitalization, nursing home admission and mortality. *Age Ageing.* Sep 1997;26(5):367-374.
28. Luppia M, Luck T, Weyerer S, Konig HH, Riedel-Heller SG. Gender differences in predictors of nursing home placement in the elderly: a systematic review. *Int Psychogeriatr.* Dec 2009;21(6):1015-1025.
29. Wagg A, Diles, D. . Four year persistence and drug treatment patterns in overactive bladder: data from Canadian datasets. Paper presented at: Canadian Urological Association 2013; Niagara Falls,.
30. Madhuvrata P, Cody, J.D., Ellis, G., Herbison, G.P., Hay-Smith, E.J. Which anticholinergic drug for overactive bladder symptoms in adults? *Cochrane Database Syst Rev.* 2012;18(1):CD005429.
31. Wagg A, Compion G, Fahey A, Siddiqui E. Persistence with prescribed antimuscarinic therapy for overactive bladder: a UK experience. *BJU international.* Mar 12 2012.