



# **Gender-based Analysis and Wait Times: New Questions, New Knowledge**

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# Gender-based Analysis and Wait Times: New Questions, New Knowledge

## Executive Summary

Gender-based analysis (GBA) is a process of examining how various phenomena, including government policies and programs, affect women and men, boys and girls. GBA is better science – it produces more valid and reliable evidence – and this evidence can lead to better recommendations, better strategic interventions, and better outcomes for individuals, households, communities and economies. Canada has made commitments to gender equity and to using gender-based analysis as a means of improving policy and program development and enhancing gender equity.

A gender-based analysis of wait times is important because women and men have different experiences of health, illness and treatment, have different health care needs, access health care differently and may experience different outcomes from programs and services. An examination of the available literature on wait times for hip and knee replacements (total joint arthroplasty or TJA) suggests that there are gender differences in the need for this surgery as well as in who is more likely to be on the waiting lists for it.

Gender-based research and analysis can illuminate the construction of wait times and wait lists, the impact of waiting on women and men, and the supports that women and men may need while they wait. Gender-based analysis may also lead to the identification of more appropriate indicators for wait times, health, and health care outcomes. Applied consistently, it will help us develop more equitable, effective and efficient health care services and policies.

The available evidence indicates that:

- women have twice the rate of osteoarthritis as men;
- women of colour have higher rates of knee osteoarthritis than white women;
- individuals with lower income and fewer years of education have higher rates of arthritis than those with higher income and education (and there are greater differences among women than among men);
- women living with arthritis have fewer resources to deal with the impact of the disease than women living with other chronic conditions;
- women have more arthritis pain than men, are more likely than men to be disabled, and are more likely than men to require personal assistance with daily activities, but are less likely than men to report unpaid help (in part because elderly women are more likely to live alone);
- women are less likely than men to report having discussed TJA with a physician; accordingly, women are less likely than men to be referred, or are referred after a longer interval to an orthopaedic surgeon;
- delayed procedures can result in poorer post-operative health outcomes;
- there are significant cost savings associated with hip/knee replacement performed earlier in the course of disease;

- the underuse of total joint arthroplasty among women has significant direct costs to the health care system (an outcome of delayed treatment) and indirect costs to society (e.g. loss of productivity);
- women with knee/hip osteoarthritis spend substantial time ‘waiting to wait’, despite reporting greater pain and disability than men; and
- the present definitions of wait times and the constitution of wait lists for TJA obscure the differences in men’s and women’s ‘patient journeys’ through the health care system.

**Recommendations:**

- a. Gender and diversity analysis should guide wait time management strategies and associated research, policies, programs and services.
- b. The definition of ‘wait time’ should be sensitive to women’s and men’s different ‘patient journeys’ through the health care system – specifically, the definition should be sensitive to the mechanisms that create delay at every point in the journey, including gender disparities in referral patterns for procedures.
- c. Data in wait time reports should be sex disaggregated, as well as disaggregated by other important markers of social location (e.g. race/ethnicity, age, socioeconomic status or income, disability, geographic location).
- d. “Historical utilization patterns” should NOT be used to estimate current need for TJA, as they underestimate women’s need for the surgery. Historical utilization patterns should be used with caution to estimate need in other clinical areas.
- e. Clinicians and wait list coordinators should receive training in gender analysis. Gender-sensitive diagnostic and referral tools should be developed and implemented to more equitably assess men’s and women’s symptoms and needs (both pre- and post-intervention).
- f. Equitable construction and management of wait lists must take into account the supports that men and women require post-intervention, as a lack of support may affect both patients’ and clinicians’ willingness to consider treatment.

# **Gender-based Analysis and Wait Times: New Questions, New Knowledge**

## **Introduction**

Gender-based analysis (GBA) involves asking questions in research and/or policy and program development about men and women, boys and girls. Canada has made explicit commitments to gender equity and to using gender-based analysis as a means of improving policy and program development and enhancing gender equity.

The issue of wait times is prominent in current health care reform debates and encapsulates key concerns about the state of the health care system in Canada including issues of quality, access, equity, and efficiency of health care services. A gender-based analysis of wait times is important because women and men have different experiences of health, illness and treatment, have different health care needs, access health care differently and may experience different outcomes from programs and services. An examination of the available literature on wait times for hip and knee replacements (total joint arthroplasty or TJA) suggests that there are gender differences in the need for this surgery as well as in who is more likely to be on the waiting lists for it.

GBA is better science – it produces more valid and reliable evidence about wait times – and the evidence produced by GBA can lead to better recommendations, better strategic interventions, and better outcomes for individuals, households, communities and economies. In this paper, we demonstrate a gender-based analysis of wait times with respect to hip and knee replacements and recommend that this model be applied to research and policy development in other clinical areas and to the examination of wait times in general.

## **Federal/Provincial/Territorial Commitments to Gender-based Analysis**

The federal government has made several commitments to gender equity and gender-based analysis (Health Canada 2003). As a foundation, gender equality is guaranteed under Sections 15(1) and 28 of the Canadian Charter of Rights and Freedoms and by many international human rights instruments to which Canada is signatory. Canada's international commitments to gender equity include ratification in 1981 of the UN Convention on Elimination of All Forms of Discrimination (CEDAW) and adoption of the UN Platform for Action, the concluding document of the UN World Conference on Women in Beijing in 1995.

At the Beijing Conference, the Government of Canada presented its own Federal Plan for Gender Equity (1995-2000), which stated that all subsequent legislation and policies would include, where appropriate, an analysis of the potential for differential effects on men and women. The Federal Plan also made a commitment to government-wide implementation of gender-based analysis in the development of policies, programs and legislation. In 2000, the federal government approved the Agenda for Gender Equality,

an initiative which included engendering current and new policies and programs and accelerating implementation of gender-based analysis commitments. Several federal government departments have issued formal gender-based analysis guidelines, including the Canadian International Development Agency, Human Resources Development Canada, the Department of Justice Canada, Status of Women Canada, and Health Canada. Health Canada's commitment is expressed in the Women's Health Strategy (Health Canada 1999) and Gender-Based Analysis Policy (Health Canada 2000).

Provincial and territorial governments have also supported the implementation of CEDAW. For example, the Federal, Provincial and Territorial Ministers Responsible for the Status of Women, issued a statement at their 14th Annual Meeting, held in May 1995, on the importance of having gender-based analysis undertaken as an integral part of the process of government (Status of Women Canada 2000). They have supported action on women's status and gender-based analysis through the establishment of Status of Women Ministers and women's directorates and/or advisory councils with the provincial/territorial machinery. Many provinces and territories have also undertaken GBA training of policy analysts and prepared supporting materials. These provincial and territorial commitments apply to departments of health, many of which have or have had gender-related focal points (e.g., offices of women's health) and undertaken specific training for their staff. Nevertheless, gender analysis is frequently absent from policy and policy making.

Given these commitments, government at all levels is responsible for ensuring gender analysis and gender equity and for developing mechanisms to do so. This paper is intended to assist researchers, policy makers and health planners with understanding how to approach the topic of wait times from the perspective of gender so that the policies and programs on wait times management that arise from this federal report are consistent with government commitments and support equitable access to care.

## **Gender-based Analysis**

### *Understanding GBA*

Gender-based analysis is a process of interrogating research, programs or policies about what they tell us about, or how they might affect, women and men. GBA is not a prescribed set of techniques but rather the process of questioning whether, how and why something might be different for women or men, girls or boys. Gender-based analysis recognizes that people and populations are always gendered and that the contexts of men's and women's lives matter. Its primary aim is to understand the nature of men's and women's lives; the secondary aim is to understand the similarities and differences between women and men. Gender-based analysis also includes trying to understand the experiences of sub-groups of women and of men, recognizing that neither women nor men as a group are all the same but rather that people differ in important ways according to income, education, ethnicity, race, age, geographic location, sexual orientation and so on. Gender-based analysis is about asking new questions in order to generate new knowledge.

## *Key Concepts for Gender-based Analysis*

Most guides to gender-based analysis distinguish between the key concepts of “sex” and “gender.” Health Canada identifies both sex (‘biological and genetic endowment’) and gender as determinants of health (Health Canada 2003). “Sex” is generally understood to refer to biological characteristics. These include the reproductive organs and their functions, as well as sex-specific hormonal activity, cellular functioning and developmental patterns (Wizemann and Pardue 2001). “Gender” on the other hand, generally refers to “the array of socially constructed roles and relationships, personality traits, attitudes, behaviours, values, relative power and influences that society ascribes to the two sexes on a differential basis” (Health Canada 2003, p. 8). These distinctions between sex and gender are useful for helping us to recognize that *both* material and social phenomena affect women’s and men’s health. But the relationship between sex and gender is complex – they are not entirely separate. Biological matter (e.g. chromosomes, cells, bodies) do not exist outside of social structures and cultures, and gender relations occur in the physical world. So – even though it may be tempting to do so – we can’t simply extract sex from its social meaning and context, nor can we understand gender apart from its relation to physical bodies. Not surprisingly, because the relationship between sex and gender is complicated, these constructs are often conflated and confused in research and policy statements. It is not uncommon for sex to ‘stand in’ for gender. For example, we see conferences on “gender-based medicine” fail to consider the social dimensions women’s and men’s health, and focus solely on sex-specific, biological variables as if these exist independently of the social environments in which they function. An adequate understanding of women’s and men’s health requires an examination of the complex interactions of both sex and gender.

## *Sex, Gender, Health and Care*

Societies are organized along what Hanna Papanek (1984) has called the “fault lines” of sex and gender, which means that women and men are thought of, treated and live their lives as different kinds of people with different types of bodies and different roles, responsibilities and opportunities. This can result in women and men having different access to life choices and chances – including economic activity, educational attainment, health and care.

Women’s and men’s health and health needs are different both because of differences in their bodies and because of differences in how women and men live, work, and play. For example, overall women have less financial security and less social status than men, but more responsibility for caring for others – women are the overwhelming majority of paid and unpaid care providers.<sup>1</sup> Also, women interact with the health care system more frequently than men, in part because of their roles in reproduction and in overseeing the care of other family members.

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<sup>1</sup> “Overall, about 80% of health care professionals in Canada in 2000 were female.” (Canadian Institute for Health Information 2002, p. 40) According to Statistics Canada, as of 1996 most unpaid caregivers were women (Canadian Institute for Health Information 2002, p. 12).

Europe's Health Evidence Network (2005) has recently recognized women and men as different "users and producers" of health care because of these differences in women's and men's responsibilities for health and care. The HEN suggests that recognizing such gender considerations is important when trying to understand health outcomes as well as health system performance. In gender-based analysis of health care, we therefore begin by developing an understanding of how women's and men's lives are structured and start to think about how programs, services and policies might be better organized to ameliorate, accommodate or redress the differences among them.

Sex and gender contribute to health problems and living conditions that may be "unique, more prevalent, more serious, or for which there are distinct risk factors or interventions for women or men" (Health Canada 2003, p. 9). These differences affect women's and men's health, their use of the health care system, and their ways of responding to care.

There are also many differences *among* women and *among* men, based on their socioeconomic status, race, ethnicity, age, sexual orientation, (dis)ability, geographic location and other important social locations that have health and health care implications. Gender-based analysis incorporates analysis of these important sources of diversity among women and men as well as the differences between women and men.

### *Tools for Gender-based Analysis*

#### New Questions

Gender-based analysis is about asking new questions. As the numerous guidebooks and tool kits on GBA illustrate, GBA is as much a way of thinking as a set of prescribed steps. While there are some generally-agreed upon strategies that can be a useful starting point, whenever we undertake a GBA, we have to attend to the particular contexts and features of the policy or phenomenon under scrutiny. Hence currently the tools of GBA consist largely of sets of guiding questions such as: What is the context of women and men's lives and how do these contexts relate to the issue at hand? How and in what way is this particular issue influenced by sex and gender? What does this mean for opportunities to intervene or take action? What are the implications for women and men, boys and girls arising from such understanding? Do current measurement tools capture the differences between and among women and men?

#### Beyond Sex-disaggregated Data

Given the increasing interest in how sex and gender affect health, it is important to ensure that both are considered in the assessment and reporting of health and health care. Sex-disaggregated reporting of data – breaking data down and reporting it by the categories of male and female – is an important basic resource for gender-based analysis, but GBA always requires further questioning. Sex-disaggregated data alone do not reveal or clarify the ways in which systemic group processes like gender norms and sexism are generated and maintained, nor how gender relations and political-economic structures produce health inequities – yet these are important determinants of health and of overall system costs.

Breaking data down by sex frequently does not reveal important differences in men's and women's experience of health, illness and health care. For example, even when a phenomenon appears to occur with same incidence in women and men, the factors contributing to the similarity and the consequences of it may be very different and may require different interventions or responses. Moreover, measurement tools which show that men and women encounter a phenomenon (an illness, a wait time) with the same frequency, may not be sensitive to differences in men's and women's bodies and experiences. For example, in the case of hip/knee replacement, we find that while women and men may have similar radiographic (e.g. x-ray) results – used as a measure of the severity of disease – women report more pain and disability than men. Thus, the tools we use to measure health and health system performance may require further scrutiny through a gender-based analysis. In other words, a GBA is as integral to formulating the right questions and the right measurement tools, as it is to conducting good analysis.

### *The Value of Gender-based Analysis in Health Care Research and Policy*

GBA supports gender equity and better science (Greaves 1999; Health Canada 2003). GBA can help to produce evidence that will support the development of initiatives that ameliorate the conditions that produce gender inequities and accommodate sex and gender differences. It may also reduce system costs in the long run by identifying the problems and solutions more appropriately. Yet, in spite of federal, provincial and territorial commitments to gender-based analysis, much health research and policy fails to (1) report sex-disaggregated data wherever possible, (2) propose gender-sensitive research questions and (3) monitor gender inequities in health or in the health system. Lin et al. point out that “the paucity of gender-sensitive indicators for health system performance points to a glaring absence of engagement between those working on gender equity and those working on health sector reform” (La Trobe Consortium 2003).

Recently, the Health Evidence Network of the WHO Regional Office for Europe (2005) has begun to look specifically for evidence about the effects of health care reforms on gender equity in the health field. After searching for and reviewing evidence of the gender-related effects of decentralization, financing, privatization and priority setting, they concluded that “(e)merging evidence shows that health care reforms can affect men and women differently, as a consequence of their different positions as users and producers of health care” (p. 4). Data are also beginning to be collected that demonstrate that gender-sensitive programming has positive outcomes. An assessment of program evaluations conducted on a wide range of reproductive health programs worldwide, for example, has demonstrated that integrating gender considerations into reproductive health programs can improve both health *and* gender outcomes (that is, the status of women) (Interagency Gender Working Group 2004) that benefit not only women but the society as a whole.

These examples point to the increasing recognition of the value of gender-based analysis for improving our understanding of health care reforms and the effectiveness of health system performance. Given the importance of wait times in current health care reform debates in Canada – and the link between wait times and issues of quality, access, equity, and efficiency of health care services – it is critically important to incorporate an analysis of sex and gender into research and policy recommendations on wait times.

## Gender-Based Analysis of Wait Times and Wait Lists

### *Sensitizing Questions*

Whether and to what extent gender plays a role in the ‘issue’ of wait times is an empirical question. That is, we do not assume or know how gender affects wait times or the management of wait lists. Rather, we assert the importance of raising and answering key sensitizing questions, such as:

- What are the contexts of women’s and men’s lives and how do their contexts differ? How might these differing contexts shape women’s and men’s need for and access to care, including care for which there are wait lists?
- How is the problem of wait times and waiting lists framed, and by whom? What evidence is marshalled to support this framing?
- How do we measure and monitor the health condition to which wait times apply?
- How is the problem (e.g., waiting time, seriousness/urgency, and impact of waiting) measured?
- How are the data reported?
- What does this measurement tell us about how the problem affects men and women?
- Is this an adequate measure? That is, do the measurement tools adequately reflect differences that may exist between women and men, and among women or among men in different social locations?
- Who benefits and who suffers?

In this Appendix, we demonstrate a gender-based analysis of hip/knee replacement surgery, one of the five clinical areas prioritized by the First Ministers for reduction of wait times.

### *Wait Times and Wait Lists as an Issue*

The very identification of wait times as a problem is the outcome of assumptions and choices that must be examined closely. In general, the problems of wait times, waiting lists and their impact on health outcomes and the health care system are framed in a discourse of escalating crisis about the state of the health care system. Reducing wait times has become a key priority for both provincial and federal governments, even though evidence compiled in the Romanow Report from jurisdictions outside Canada has “warned against simplistic solutions such as focusing solely on wait times. Improving access to care is more than just speeding access to elective surgery. It’s also about appropriate, timely interventions along the full spectrum of care” (Pascal 2006, p. A15). Nevertheless, there is growing concern that long waits for health care have serious economic costs, may cause physical and psychological harm to patients, raise questions about fairness, and may undermine public confidence in the health care system (Health Council of Canada, 2005). Users of health care, general practitioners, nurses, surgical specialists and health care managers express the *belief* that wait times are increasing, and the media reinforce this perception by reporting extreme cases of waiting. But evidence

from Statistics Canada and provincial databases suggests that wait times have been stable in recent years (Canadian Institute for Health Information 2006b; Shortt 2000) – for example, evidence from the Health Services Access Survey indicates that median wait times for non-emergency surgery remained virtually the same from 2001 to 2005 (Canadian Institute for Health Information 2006b).

To complicate matters, the definition of ‘wait times’ has vexed researchers and policy makers attempting to assess and address the extent of the problem – definitions and measurement have been inconsistent across jurisdictions and among researchers. For example, some measurements are prospective while others are retrospective; some report mean wait times while others report the median; and there is variation in ‘when the clock starts’ on waiting.

In December 2005, provincial web sites defined ‘wait time’ for hip and knee replacement surgery as: the time from the second previous appointment with an orthopedic surgeon to surgery (Nova Scotia); the time from decision-to-treat to surgery (PEI, Ontario, Manitoba and Alberta); the time from hospital booking to surgery (Quebec and British Columbia); and the time from booking form received to surgery (Saskatchewan) (Canadian Institute for Health Information 2006b). On December 12, 2005, federal, provincial and territorial Ministers announced common benchmarks for selected treatments and agreed: “wait time begins with the booking of a service, when the patient and the appropriate physician agree to a service and the patient is ready to receive it. The appropriate physician is the one with the authority to determine the needed service. A wait time ends with the commencement of the service.” (Ministry of Health and Long-Term Care 2005) Each of these definitions excludes significant portions of the ‘patient journey’ through the health care system, thus excluding significant elements of waiting. Moreover, each definition may influence the effectiveness of the measure for women and for men.

Meanwhile, there is very little information about how women and men are affected by waiting which takes into account the kinds of paid/unpaid work they do, the supports they have, or their responsibilities as wage earners and/or caregivers for family members and others. For example, “women often have roles as homemakers and caregivers that may be affected by arthritis disability. Since most disability and employment studies focus only on paid work, relatively little is known about the effect of arthritis on domestic responsibilities” and hence, on the impact of waiting for care (Badley and Kasman 2004, p. S25-S26). Moreover, most – if not all – wait times data are reported in aggregate, that is, they are not separated for women and men, making it difficult to determine what differences there may be between (and among) women and men.

### *Wait Times, Waiting Lists and Total Joint Arthroplasty*

In what follows, we apply a gender-based analysis to the clinical area of hip and knee replacements (‘total joint arthroplasty’ or TJA), procedures for which there is growing demand in Canada: there was a 19% increase in hip replacements and a 62% increase in knee replacements between 1994-95 and 2001-02 (Canadian Institute for Health Information 2006a). There is evidence that delayed procedures can result in poorer health outcomes, and that there are cost-savings associated with hip/knee replacement performed earlier in the course of disease (Fortin et al. 1999; Masri et al. 2005).

Moreover, Ethgen et al. (2004, p. 970) argue: “If more disabled patients can achieve substantial relief, then disproportionately long waiting times impose an avoidable burden of pain and disability.” The waiting associated with TJA is clearly a pressing concern. But how are diagnosis, prevalence of need, application of treatment, response to treatment, the waiting associated with treatment, and treatment outcomes different between and among men and women? Answering these questions could lead not only to more efficient and effective outcomes but to savings in costs and suffering as well.

### *Gender and Arthritis*

Let’s start with the condition at the root of most hip/knee replacements. Arthritis is one of the most prevalent chronic conditions in Canada, and a leading cause of long-term disability, pain, and increased health care utilization. Arthritis is far more common among women than among men – osteoarthritis affects about twice as many women as men (Badley and Kasman 2004). The specific causes of osteoarthritis may differ by gender, insofar as women and men have different rates of correlated conditions and undertake different activities that are predictors of osteoarthritis. For example, established mechanical risk factors for knee osteoarthritis include obesity and previous knee injury (Cooper and Coggon 1999). The evidence related to the risk posed by physical activity is somewhat controversial – there is little evidence to suggest that regular physical activity throughout life is associated with increased risk of knee osteoarthritis, although high intensity, high impact activity is associated with a small increase in risk (Cooper and Coggon 1999; Sutton et al. 2001; Rogers et al. 2002). In fact, physical activity may *reduce* the risk of hip/knee osteoarthritis, especially among women (Rogers et al. 2002). Gender differences in levels and type of physical activity may thus help explain different rates of osteoarthritis in women and men. Research on *work*-related activities and osteoarthritis of the hip and knee suggests that occupational kneeling and squatting for extended periods are risk factors (Maetzel et al. 1997; Cooper and Coggon 1999). However, despite the greater incidence of osteoarthritis in women, research on the impact of physical activity and mechanical occupational exposure has attended mainly to men, focusing on former athletes and ‘masculine’ occupational categories such as agriculture, forestry, fishing and transportation (Maetzel et al. 1997; Cooper and Coggon 1999; Manninen et al. 2002). In one review, no studies were found that investigated occupational exposure and hip osteoarthritis in women (Maetzel et al. 1997). This glaring absence of gender awareness in research not only reveals poor evidence, it also impedes appropriate and effective prevention and treatment for women and may compromise health outcomes for women, who are more at risk for osteoarthritis than men.

Differences in social factors such as class, race, relationship status and labour force participation are also observed between and among women and men with arthritis. Lower income and fewer years of education are associated with higher rates of arthritis in both women and men (though more women than men live on low income) but these disparities are greater among women than among men. There is also evidence that the prevalence of knee osteoarthritis is higher in black women than in white women (Sowers et al. 2000). In general, women with arthritis are likely to be older, have lower incomes, have fewer years of education, and are more likely to be widowed and out of the labour force than women with other chronic conditions. “Consequently, it appears that the women who are experiencing arthritis may be the women with the fewest resources to deal with the

impact of the condition on their daily lives.” (Badley and Kasman 2004, p. S23) We can surmise that these women also have the fewest resources to deal with the impact of waiting *for* surgery, and with the challenges of rehabilitation *from* surgery.

### *Gender and Total Joint Arthroplasty*

For individuals with advanced osteoarthritis of the hip or knee, total joint arthroplasty (hip/knee replacement) is the definitive treatment (Blackstein-Hirsch et al. 2000; Hawker 2004). What do we currently know about how the need for TJA differs between men and women? A Canadian population-based study found that the estimated potential need for hip/knee arthroplasty was more than twice as great among women as men because of the higher prevalence of severe hip/knee arthritis in women (Hawker et al. 2000). In comparison with men, women had more arthritis pain, were more likely to be disabled, and were more likely to require personal assistance in performing daily activities (mostly because they were more likely to live alone – this is consistent with other evidence about the living arrangements of women with osteoarthritis) (Hawker et al. 2000; Ethgen et al. 2004). This study indicated that arthroplasty was *underused* in both men and women, and that the degree of underuse was more than 3 times greater in women (Hawker et al. 2000). Because evidence indicates that earlier intervention in the course of hip or knee osteoarthritis results in better postoperative outcome (Fortin et al. 1999), we can surmise that “underuse of arthroplasty may have substantial direct costs to the health care system and indirect costs to society, and that more of these costs are due to underuse in women than in men.” (Hawker et al. 2000, p. 1020)

### *Costs of Disabling Hip/Knee Osteoarthritis*

What are the costs of disabling hip/knee osteoarthritis? Both direct costs and indirect costs to the health care system and/or patients can be calculated. A recent Canadian study of direct costs (e.g. for community services, paid help, purchase of equipment) and indirect costs (e.g. lost income, value of unpaid caregiving) found that indirect costs account for most of the cost of osteoarthritis (Gupta et al. 2005). The value of caregiver time accounts for, on average, 40% of total indirect cost. As the majority of paid and unpaid caregivers are women, these costs are largely accounted for by women’s labour. In this study, *men* were less likely to report costs – but when they did, they reported costs which were nearly 25% higher than those reported by women. Men’s greater reported costs may reflect their overall higher salary and thus greater income loss. Individuals living in rural regions reported higher total costs, and *rural women* were significantly more likely to incur *direct* costs than any other gender/region group (among urban respondents, men and women did not differ significantly in direct costs incurred). Individuals who lived alone were less likely than those living with others or in a nursing home to report unpaid help with chores – and in both urban and rural settings, *women* were more likely than men to be living alone. As women are more likely to live alone, less likely to report unpaid help, and overall have less income than men, they appear to have fewer material and social resources for waiting and for rehabilitation following joint replacement. This lack of resources may have an impact on women’s willingness to undergo surgery and/or surgeons’ willingness to recommend surgery. These differences reveal the importance of a gender analysis for assessing the impact of illness and rehabilitation on men and women, as well as for planning in the health care system.

## *Accounting for Greater Underuse of TJA Among Women*

### Gender-blind Diagnostic Tools

This returns us to the question of why there is greater underuse of arthroplasty in women. One explanation is the inability of so-called ‘gender blind’ or ‘objective’ diagnostic tools such as radiographic assessment to distinguish how arthritis disease manifests differently in women and men. A study examining function in patients awaiting knee replacement revealed that across “all variables measured, the common theme was the marked impairment and disability in women awaiting arthroplasty when compared with men awaiting the same surgery. *Despite similar radiographically determined knee damage, women were worse across all variables evaluated.*” (Pagura et al. 2003, emphasis added) If radiography is used as the primary tool to measure severity and/or urgency in the referral for TJA and management of wait lists, gender inequities may result because the tool underestimates severity/urgency in women. Gender-based analysis thus reveals important limitations of ‘objective’ measurement tools and can point to the need for more robust and equitable measures. Ethgen et al. (2004, p. 970) recommend expanding the scope of diagnostic and referral tools:

To manage the waiting list, *a patient’s perception of his or her overall symptom burden and ability to tolerate delayed pain relief should be considered along with information derived from clinical judgments.* Several studies have suggested that the SF-36 and the WOMAC [scales used to assess severity of symptoms] may assist the surgeon in placing the patient on the waiting list for surgery. In a study of patients who had a total hip arthroplasty, the scores on the WOMAC pain and physical function scales at twelve months postoperatively were not predicted by the preoperative radiographic grade of osteoarthritis. *This suggests that the symptoms and not the radiographic grade should drive the decision for surgery.* The practice of delaying total hip arthroplasty until severe radiographic changes are evident should therefore be questioned, and more attention should be paid to the patient’s self-perception of health status (emphasis added).

Diagnostic and referral tools informed by gender-based analysis will more accurately reflect the disease course and treatment needs of women and men with disabling hip and knee arthritis. This, in turn, will affect how women and men are referred for treatment, and, ultimately, their inclusion on wait lists.

### Gendered Treatment Patterns

The problem of under-use of arthroplasty (i.e. under-referral for surgery) among women may also be explained by gendered clinical communication patterns. That is, women may not report their symptoms in the same way as men, nor may women’s symptoms be interpreted or acted upon by clinicians in the same way as men’s. In one study, while women were more likely than men to seek treatment for arthritis and had similar levels of

coexisting conditions, “women with a potential need for arthroplasty were less likely than men to report ever having discussed arthroplasty with a physician” (Hawker et al. 2000, p. 1021). The findings of this study suggest that “women are less likely to be referred, or perhaps are referred after a longer interval, to orthopedic surgeons for consideration for arthroplasty. Such a delay might occur because women are less likely to initiate discussions about their arthritis or its treatment, or are less demanding of surgery when it is discussed. [...] Alternatively, primary care providers may have attitudes regarding the risks of, indications for, and expected outcomes of arthroplasty that make them consider women less appropriate candidates for surgery than men.” (Hawker et al. 2000, p. 1021)<sup>2</sup> These findings are consistent with evidence of gender bias in diagnosis and treatment, and gender differences in clinical communication.

There is “a sizable literature [...] indicating that physicians make more diagnostic errors and initiate less-aggressive interventions with women than with men” (Elderkin-Thompson and Waitzkin 1999, p. 112). For example, while women report more severe levels of pain, more frequent incidences of pain and pain of longer duration than men, they are less likely to receive treatment for it (Hoffman and Tarzian 2001). While men are slower to seek treatment for pain than women, there is no evidence that men are in need of more aggressive care when they do seek care. There are several explanations for diagnostic and treatment disparities related to men’s and women’s pain: some clinicians may believe that women have a higher capacity to endure pain, based on their biological role in childbirth; some clinicians may believe that because women have more and better coping mechanisms for dealing with pain than men, women are better able to withstand pain and need less treatment; and some clinicians attribute women’s symptoms to overanxiousness and interpret women’s communication strategies as evidence of an overly emotional response to their symptoms (Elderkin-Thompson and Waitzkin 1999; Hoffman and Tarzian 2001). Moreover, a majority of studies conducted to date indicate racial and ethnic disparities in treatment for pain – specifically, African-American and Hispanic patients are less likely than whites to receive effective pain treatment; this holds true across a range of health care settings (Bonham 2001). Accordingly, we are likely to find differences in symptom assessment and treatment among as well as between women and men. Diagnostic tools and referral practices must therefore be informed by gender and diversity analyses, to ensure that they are valid for women and men across social locations.

### Gendered Decision-making Patterns

To shed further light on the question of why women have greater underuse of hip/knee replacement surgery, we can turn to research on patients’ decision-making practices regarding total joint arthroplasty. According to Hudak et al. (2002), some patients do not see their arthritic pain or disability as problems, nor see arthritis as a disease that needs attention or treatment. People who have normalized their arthritis may be less likely to

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<sup>2</sup> In this study, women and men gave similar reasons for not yet having had arthroplasty when it was recommended, “except that women were less risk averse than men [which suggests they may be more willing to undergo surgery] and were more likely to be still waiting to see the orthopedic surgeon” (Hawker et al. 2000, p. 1019).

initiate conversations about arthritis treatment with their health care providers. Patients may also choose not to initiate discussion about TJA with their practitioner because of “fears stemming from misinformation, lack of information, or misperceptions” (Hudak et al. 2002, p. 276) – however, the observations in this study are about ‘people’ and ‘patients’ – they are not disaggregated by gender and do not reveal potential differences between men and women. Other researchers have found that patients’ concerns about lack of social support post-surgery may fuel unwillingness to undergo the procedure: “A lack of social support frequently accompanies aging, which then creates the possibility that patients are not merely unwilling to accept the costs of rehabilitation but are in fact unable to secure support during their recovery.” (Clark et al. 2004, p. 1373) Because elderly women are more likely to live alone than elderly men, it is reasonable to surmise that women may have more difficulty securing needed support. In addition, because most women are more likely than men to be caregivers for others, they may be more likely to be *providing* support than *receiving* it. Clark et al. (2004, p. 1373) conclude: “In light of sex-related differences in the rate of use of surgery and previous focus group research indicating that female patients with arthritis face practical barriers when considering joint replacement, the issue of social support demands more focused research attention.” Such research might examine how referral rates for women and men are affected by levels of social support, which may in turn be influenced by a combination of gender, age, income and other factors.

## Conclusion

In sum, available evidence indicates that:

- women have twice the rate of osteoarthritis as men;
- women of colour have higher rates of knee osteoarthritis than white women;
- individuals with lower income and fewer years of education have higher rates of arthritis than those with higher income and education (and there are greater differences among women than among men);
- women living with arthritis have fewer resources to deal with the impact of the disease than women living with other chronic conditions;
- women have more arthritis pain than men, are more likely than men to be disabled, and are more likely than men to require personal assistance with daily activities, but are less likely than men to report unpaid help (in part because elderly women are more likely to live alone);
- women are less likely than men to report having discussed TJA with a physician; accordingly, women are less likely than men to be referred, or are referred after a longer interval to an orthopaedic surgeon; and
- the underuse of total joint arthroplasty among women has significant direct costs to the health care system (an outcome of delayed treatment) and indirect costs to society (e.g. loss of productivity).

Women with knee/hip osteoarthritis spend substantial time ‘waiting to wait.’ Despite reporting greater pain and disability than men, women more often wait to be referred to orthopaedic surgeons, and to be referred to surgery. Importantly, this stage of waiting is not reflected in official wait times data. Because wait time is defined as the time between booking and receiving a procedure, the extra time that women wait is effectively erased.

The Health Council of Canada (2005, p. 1) notes that: “Without a common understanding of the mechanisms that may create delay and how waiting in health care systems functions, real progress will be difficult.” Presently, the definitions of wait times and the constitution of wait lists for TJA obscure the differences in men’s and women’s ‘patient journeys’ through the health care system.

The goals of reducing wait times include: reducing suffering, improving quality of life, reducing further costs to the health care system (by treating people earlier in the course of illness), and ensuring that the system operates fairly, “such that access to appropriate and effective health care is both timely and prioritized on the basis of need and potential benefit” (Pitt 2003) (cited in Canadian Health Services Research Foundation 2005, p. 1). But these goals cannot be met if the people with greatest need are not recognized, and never make it to the list in the first place.

The goals of better wait time management in the case of hip and knee replacement surgery cannot be met without first examining disparities in referrals to wait lists and in access to treatment relative to need. We must address the question: Are interpretations of symptoms and measurements of urgency equitable and valid for women and men across race, ethnicity, class, and other important social locations? The Health Council of Canada (2005, p. 7) acknowledges: “One of the most difficult tasks that face health services managers is the accurate estimate of true need and demand” and the Council “supports continuing attempts to better define true need.” But the Council – clearly *not* informed by a gender-based analysis of the five priority areas for wait times – recommends that “historical utilization patterns should be accepted as the best estimate of current need”. In the case of TJA, this perpetuates the masking of women’s greater need and greater underuse of joint replacement surgery. This recommendation is a clear example of how developing wait times policy *without* applying a gender-based analysis will not only thwart the goals of better wait time management, it may actually *increase* health inequities.

In the case of TJA, and across other clinical areas, the measurement of wait times (when ‘the clock starts and stops’) must take into account women’s and men’s different journeys through the health care system. Clinicians who hold the power to ‘start the clock’ must better understand the contexts of men’s and women’s lives, so they can more equitably assess men’s and women’s symptoms and needs (both pre- and post-intervention). Gender-sensitive diagnostic and referral tools must be developed and implemented to ensure that the women and men who need medical intervention will get it. Furthermore, equitable construction and management of wait lists must take into account the supports that women and men require post-intervention, as a lack of support may affect both patients’ and clinicians’ willingness to consider treatment. The outcomes of these efforts may increase the number of women on surgical wait lists, but also reduce costs to the system and reduce social costs in the long run.

Gender-based research and analysis can illuminate the construction of wait times and wait lists, the impact of waiting on women and men, and the supports that women and men may need while they wait. Gender-based analysis may also lead to the identification of more appropriate indicators for wait times, health, and health care outcomes. Applied

consistently, it will help us develop more equitable, effective and efficient health care services and policies.

### **Summary of Recommendations**

- a. Gender and diversity analysis should guide wait time management strategies and associated research, policies, programs and services.
- b. The definition of ‘wait time’ should be sensitive to women’s and men’s different ‘patient journeys’ through the health care system – specifically, the definition should be sensitive to the mechanisms that create delay at every point in the journey, including gender disparities in referral patterns for procedures.
- c. Data in wait time reports should be sex disaggregated, as well as disaggregated by other important markers of social location (e.g. race/ethnicity, age, socioeconomic status or income, disability, geographic location).
- d. “Historical utilization patterns” should NOT be used to estimate current need for TJA, as they underestimate women’s need for the surgery. Historical utilization patterns should be used with caution to estimate need in other clinical areas.
- e. Clinicians and wait list coordinators should receive training in gender analysis. Gender-sensitive diagnostic and referral tools should be developed and implemented to more equitably assess men’s and women’s symptoms and needs (both pre- and post-intervention).
- f. Equitable construction and management of wait lists must take into account the supports that men and women require post-intervention, as a lack of support may affect both patients’ and clinicians’ willingness to consider treatment

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