

# Looking beyond parity: Gender wage gaps and the leadership labyrinth in the Canadian healthcare management workforce

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## Abstract

It is important for health organizations to monitor progress toward gender equity and inclusion goals among health human resources. Within the Canadian healthcare management workforce, however, recent investigations are lacking. This study examines gender differences in composition and compensation among health leadership in Canada using national census data. Findings show that although women represent over half (57%) of senior managers in health and social services, the pipeline from middle management (72%) suggests persistent career barriers disproportionately affect women. Women health and social care managers' earnings averaged \$0.83-.89 for every dollar that a man earned. The gender wage gap remained statistically significant, with women health managers earning 12-20% less than men, after adjusting for age, education and other characteristics. Dynamic decomposition analyses highlighted that most of the gender wage gap could not be explained within the available data—a finding attributable, at least in part, to (unmeasured and unmeasurable) gender discrimination.

## Introduction

Embracing Diversity, Equity and Inclusion (DEI) from a health human resources perspective can lead to better workers' experience and engagement and, ultimately, a more effective and efficient Canadian healthcare system.<sup>1,2</sup> Using and reporting disaggregated data on avoidable differences in workplace outcomes that occur by gender or for other socially defined groups is a necessary step for demonstrating accountability for results among inclusive health leaders.<sup>1-3</sup> However, quantitative assessments of the advancement of DEI in the health management workforce itself are scarce. Few national studies have examined changes in the demographics of health managers and executives in Canada, although a persistent gender-based inequality in accessing senior management positions had been identified since the 1980s.<sup>4</sup> A 2013 international survey across G20 countries ranked Canada as showing the highest percentage of women (45%) among its public sector leaders, but even this was less than the 51% share of women in the population.<sup>5</sup> Women continue to face challenges as they advance to top management roles. This problem is well-documented and has metaphorically been described as the *glass ceiling*, that is, the unseen and artificial barriers based on (unconscious) stereotype-based practices and organizational bias that hinder women and other equity-seeking groups from progressing to management and decision-making positions, regardless of their abilities, qualifications, and achievements.<sup>6-9</sup> Any evidence that the glass ceiling is cracking among Canadian health managers has been largely anecdotal.<sup>10</sup>

Based on 2016 Statistics Canada population census data, 1.5 million Canadians were employed in healthcare and social

services occupations, of whom 79% were women.<sup>11</sup> This leads to the question—how well are women represented in managerial roles as well? The present study looks at trends in different indicators of gender inclusion, including women's numerical representation and wage differences in relation to men's in the health and social care management workforce. Progress in achieving DEI goals is thus considered to extend beyond simple parity, or equal mass of women and men in management positions, to include addressing the gender pay gap as a tracer for the devaluation of women's contributions and their continued marginalization in the workforce.<sup>12</sup>

The empirical study draws on nationally representative 2006 and 2016 Canadian census data among full-time employed degree-holders in the core working ages of 25-54 years, and followed the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines.<sup>13</sup> A complete methodological description is available upon request. For purposes of employment equity monitoring, health and social care managers were mapped to the National Occupational Classification, a systematic taxonomy that categorizes jobs by similarity in duties, working conditions, and employment requirements (see Box A).<sup>11,14</sup>

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### Box A: Health and social care managers in the National Occupational Classification.

- **Senior managers in health, social and community services:** plan, direct, and evaluate the delivery of health, social, and community services and formulate associated policies. These positions usually require a university degree in a service-related or administrative discipline and several years of experience as a middle manager. (Note: This group also includes senior managers in voluntary organizations and other areas related to the social determinants of health.)
  - **Managers in healthcare:** plan, organize, and direct the delivery of services within departments of hospitals, medical clinics, nursing homes, and other healthcare organizations. A university degree in a health discipline and several years of professional experience are usually required.
  - **Managers in social and community services:** plan, organize, and direct the programs and activities of social service agencies and other organizations involved with social issues. A university degree in a social science or administrative discipline and several years of professional experience are usually required.
- Source: Statistics Canada.

## Women's representation in health management

The 2016 census identified 10,000 senior managers aged 25-54 working full-time in health, social, and community services in Canada, and 24,460 in middle management health and social care occupations. While women were found to be well represented among mid-level managers in health and social services (72%), their progress to senior roles was more contained (57%) (see [Figure 1](#)). Moreover, even the high proportion of women in middle management positions was lower than their overall representation in the health workforce (i.e., 79%).<sup>11</sup> Although the traditionally male-dominated health management workforce has experienced considerably higher numbers of women in recent decades, the persistence of gender occupational segregation in many health professions bears consideration.

Much attention to gender inclusion among health human resources has focused on the physician workforce, which has seen continually increasing numbers of women practitioners, albeit with wide differences across specialities and in compensation under existing medical payment models.<sup>3,15</sup> The Canadian general practitioner workforce was found to have reached, even slightly surpassed, gender parity (53% female in 2016) but not the specialist workforce (45%) ([Figure 1](#)). Many other professions in physical, mental, and rehabilitation health services continued to be defined by strong levels of gender segregation (at least 80% female). Gender

norms and stereotypes may lie at the root of certain occupations such as nursing and counselling being considered “women’s work” and also acting as a deterrent to men from entering these professions.<sup>16</sup> Such inherent gender biases may, in turn, lead to unequal leadership opportunities in this sector.

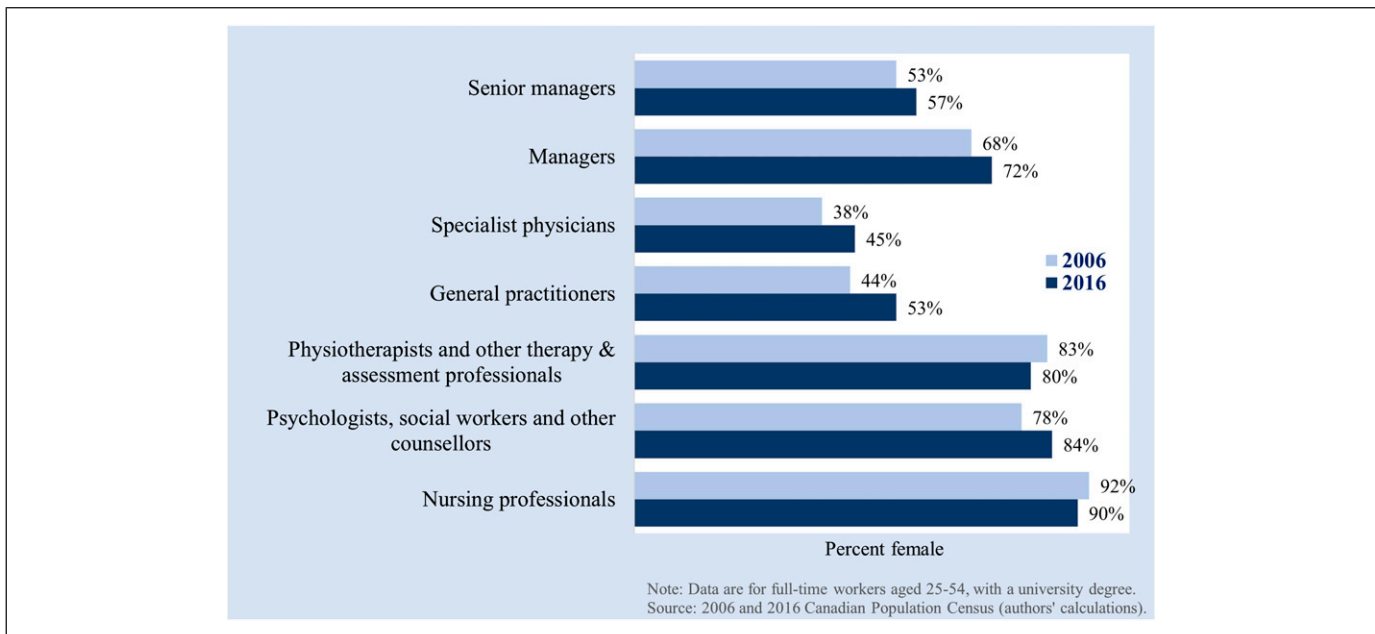
## Relative earnings of health managers

Examinations of the gender wage gap are premised on the notion that equal pay for equal work is necessary for health organizations to move from aspirations to full gender inclusion.<sup>15,16</sup> Women in the Canadian labour force aged 25-54 earn \$0.87 on average for every dollar earned by men.<sup>17</sup> Within the university-educated health and social care management workforce, women in senior roles in the same age group were found to earn \$0.89 on average for every dollar that a man earned in 2016. This gap had narrowed considerably from a decade earlier (\$0.72 to the dollar in 2006). Among those in mid-level management roles in healthcare, women earned \$0.85 to the dollar in 2016, a gap that had narrowed from \$0.79 in 2006. Among mid-level managers in social services, the female:male earnings ratio narrowed to \$0.83 in 2016 from \$0.72 a decade earlier.

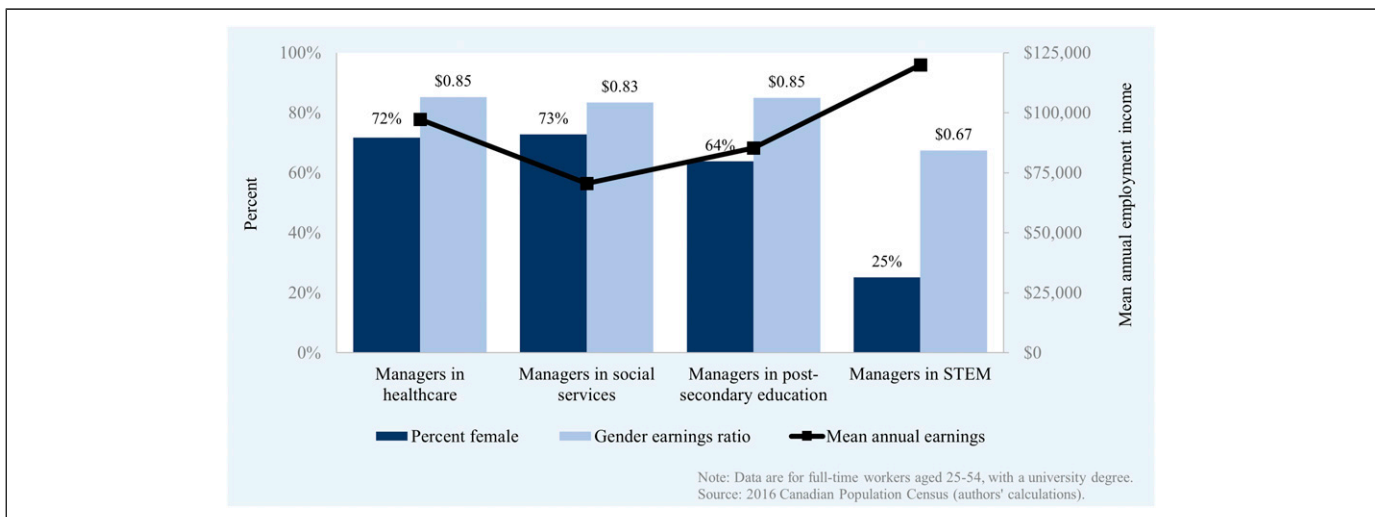
The gender wage gap can be assessed both within occupations and across occupations, the latter considering whether female-dominated occupations demonstrate the same average earnings as male-dominated occupations with the same or similar skill level and working conditions. The present study compared the gender compositions and female:male earnings ratios for mid-level managers in health and social services against those for managers in the traditionally female-dominated education field and for managers in the traditionally male-dominated science, technology, engineering, and mathematics (STEM) disciplines. As seen in [Figure 2](#), across occupations, the earnings of managers in male-dominated STEM fields (25% female; \$119,900 average annual earnings) were considerably higher than those of health managers (72% female; \$97,300 average annual earnings) or of the other female-dominated management workforces in social services and post-secondary education. Middle managers in health and social care experienced comparable gender earnings imbalances (\$0.83-\$0.85) to that observed among middle managers in (female-dominated) post-secondary education (\$0.85), although the gap was found to be considerably wider among the better-paid, male-dominated STEM managers (\$0.67).

## Deconstructing the gender wage gap

What are the differences among management staff that may be contributing to differences in earnings? In Canada’s publicly funded healthcare system, compensation for managers is not expected to demonstrate wide ranges.<sup>10</sup> The level of education is one of the key hypothesized variables that may explain wage differences in a given occupation.<sup>17</sup> Based on the census data,



**Figure 1.** Women's representation in the Canadian health and social care system, 2006-2016.



**Figure 2.** Gender composition and wage gaps in the management workforce, 2016.

among university-educated senior health and social care managers, women increased their representation with graduate-level qualifications (from 45% with a graduate degree in 2006 up to 47% in 2016), although the opposite trend was seen among men (from 53% down to 49% over the decade). Among middle health managers, both women and men increased their shares with graduate-level qualifications, albeit with women reporting having a graduate degree less often than men (from 47% to 49% among women, and from 49% to 54% among men over the decade).

Age is another factor commonly linked to the gender wage gap.<sup>17</sup> Census data showed that the age structure of the

senior health and social care management workforce varied little over time: the share of women aged 25-34 years remained stable between 2006 and 2016 (14% and 13%, respectively) as did the share of men in this younger age group (10% and 11%, respectively). The middle health management workforce experienced a more youthful influx over time among women (from 12% aged 25-34 in 2006 to 18% in 2016) and similarly among men (from 11% to 18% over the decade).

Regarding other sociodemographic and labour market variables, at both the senior and middle levels, female health managers were characterized less often than males

**Table 1.** Factors explaining the gender wage gap in the management workforce.

	Senior managers in health and social care		Managers in healthcare		Managers in social services		Managers in post-secondary education		Managers in STEM	
Sociodemographic characteristics, 2016	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Younger age group (25-34 years)	13%	11%	18%	18%	24%	21%	21%	15%	20%	17%
Graduate degree	47%	49%	49%	54%	33%	37%	55%	66%	41%	36%
Immigrated to Canada in adulthood	9%	13%	12%	19%	14%	14%	15%	20%	28%	33%
Visible minorities	14%	15%	20%	27%	22%	22%	20%	19%	31%	33%
Indigenous identity	3%	3%	3%	2%	5%	4%	3%	3%	1%	1%
Residing in most rural/remote areas	8%	8%	8%	8%	8%	7%	5%	6%	2%	2%
Predictors of earnings differentials, 2006-2016 (adjusted for effects of other predictors) <sup>a</sup>										
Female (vs. male)	-20%*		-12%*		-12%*		-11%*		-15%*	
Graduate degree (vs. Bachelor's)	27%*		20%*		14%*		24%*		3%*	
Adult migrant (vs. No)	-26%*		-16%*		-30%*		-17%*		-18%*	
Visible minority (vs. No)	-12%*		-11%*		-10%*		-19%*		-10%*	
Indigenous identity (vs. No)	13%		-2%		14%*		22%*		5%	
Residing in rural/remote areas (vs. Most urbanized)	-19%*		-5%		-12%*		-9%*		-8%*	
Later census period (vs. Earlier)	4%		4%*		3%		5%*		2%*	
Explained and unexplained portions of the gender wage gap, 2006-2016 <sup>b</sup>										
Explained portion (sum of effects of all predictors)	11%*		2%*		28%*		39%*		20%*	
Unexplained portion	89%*		98%*		72%*		61%*		80%*	

Note: \* = statistically significant at a 95% confidence level. Data are for full-time workers aged 25-54, with a university degree.

<sup>a</sup>Effects of predictors of earnings differentials (in inflation-adjusted Canadian dollars) are estimated using multivariate log-linear regression, and further adjusted for age group, work tenure, household maintainer status, marital status, and family status.

<sup>b</sup>Explained and unexplained components of the gender wage gap are estimated using Blinder-Oaxaca decomposition on logged annual earnings.

Source: 2006 and 2016 Canadian Population Census linked to Statistics Canada's Index of Remoteness of communities (authors' calculations).

to have immigrated to Canada in adulthood (that is, more often to be Canadian-born or to have immigrated prior to exposure to advanced education and labour market access), and less often to identify as a visible minority (Table 1). Approximately 2-5% of health and social care managers self-identified as Indigenous in the 2016 census. Senior and middle health and social care managers of both sexes tended to be more widely dispersed geographically to meet population needs (about 8% residing in the most rural and remote parts of the country), in contrast to the mid-level STEM management workforce which was more concentrated in the most urbanized parts.

Multivariate linear regression was used to test for independent associations between the characteristics of managers and their earnings within and across the five different management occupations for comparative analysis. Being female was significantly associated at a 95% confidence level with lower earnings compared with males across each of the management groups (that is, a gender wage gap of 11-20%), after adjusting for the set of other predictors (Table 1). The widest gender wage gap was seen

among senior health and social care managers. Positive returns of higher education on labour earnings were evident among managers of Indigenous identity, a finding that has also been reported elsewhere for degree-holding Indigenous peoples in the general workforce.<sup>18</sup> Adult migrants and members of visible minority groups experienced significantly lower wages among all management groups, controlling for educational attainment and other predictors. In many cases, the observed differentials by gender and across social groups reflected a period of relatively stagnant wages among the management workforce over the two census periods.

Is it actually these sociodemographic characteristics of managers that are driving the gender wage gap? Dynamic regression-based decomposition was used next to separate the portion of the gender wage gap that can be explained by observed differences in the characteristics of women and men (such as changes over time in patterns of graduate-level educational attainment) and the portion that remained unexplained by such factors.<sup>17,19</sup> Very little of the (significant) gender wage gaps among health managers was explained by the measured characteristics (2-11% of the gap



explained) (Table 1). Sociodemographic and labour characteristics were able to explain a little more of the gender wage gap among managers in social services, post-secondary education, and STEM (20-39% of the gap explained). The remaining unexplained portion can be attributed to a combination of other factors that were not measured with the available data, many of which may be related to the glass ceiling, such as work interruptions for caregiving, wage negotiations, or opportunities for professional and leadership development, mentorship, or promotion.<sup>6,8,17</sup> Some of the unexplained portion of the gender wage gap may remain unmeasurable and is widely attributed in the literature as statistical evidence of unequal gender-based treatment in the labour market which may be translated as bias and discrimination against women.<sup>17,19</sup>

## Conclusions and further considerations

Health human resources issues are a priority for health managers and leaders as well as health researchers in Canada. Enhanced metrics are needed to better understand and evaluate DEI-infused leadership competencies,<sup>1</sup> although healthcare managers themselves are rarely the subject of research studies.<sup>14</sup> This quantitative inquiry offers insights on the changing demographics of the health and social services management workforce, whether these demographics may be related to wage disparities, and how future monitoring of progress toward pay equity can best demonstrate accountability related to DEI goals. Among the key findings:

- Women represent over half (57%) of senior health and social care but the pipeline from middle management (where 72% are women) suggests there continue to be pressures that disproportionately push women out of the hierarchy.
- Women health and social care managers earned \$0.83-.89 on average for every dollar that a man earned in 2016. Wage depreciation affects both women and men as overall compensation levels in female-dominated management occupations (including in health) averaged considerably lower than earnings in male-dominated occupations (such as managers in STEM), despite similar skill levels and working conditions.
- The gender wage gap remained significant after adjusting for age, education, and other predictors of employment earnings, with women health and social care managers earning 12-20% less than men. Most of this gap cannot be explained statistically within the available data, a finding that is often attributed in the literature, at least in part, to effects of gender discrimination.

Much has been written about the glass ceiling and how it has prevented women from achieving positions of governance and leadership. This metaphor is often seen to describe the experience of women who become middle managers but then are less likely to progress further to senior and executive positions. Arguably, the complex and nuanced disadvantages

that women face in hiring, promotion, and valuation decisions in both traditional and non-traditional fields suggest that a *leadership labyrinth* may be a more relevant construct to today's career patterns.<sup>6,9,20</sup> Multipronged initiatives and accountability for proposed solutions to advance gender equity in the health workforce are required at all levels of health organizations and encompassing all stages of career progression.<sup>1,3</sup> This may entail diversifying the metrics of impact beyond gender representation at different managerial levels to measurable targets for capturing shifts in implicit bias impinging performance assessment of women as well as systemic barriers to women's advancement through existing models of career development, recognition, and compensation.<sup>1,3,12,16</sup>

Further research considerations on gender and health leadership include strengthening consensus- and evidence-based metrics on wage trajectories as a tracer for this form of social inequality. It is widely argued that the COVID-19 pandemic has had a profound impact on women and other equity-seeking groups in the healthcare workforce which threatens to widen the leadership gap, and timely monitoring tools are needed.<sup>1,16</sup> Second, although gender is not binary, the present investigation focuses on differences in pay between women and men as these were the two categories included in the available census data. Future analyses of gender diversity will be enhanced by new data distinguishing self-reported gender identity from biological sex at birth, which were collected for the first time in the 2021 census (not yet available for research use at the time of this analysis). Third, given Statistics Canada privacy protocols surrounding the census-based income data, sample size restrictions precluded the ability to conduct a comprehensive examination of interprovincial wage variations. More research is needed on the role of provincial and territorial health systems, in both the larger and smaller jurisdictions, and which may capture different definitions of health management and leadership than those used here based on a national statistical taxonomy.

The ongoing and transparent measurement of outcomes to evaluate DEI goals is needed, recognizing that workplace cultures are also rooted in structural inequalities in society at large.<sup>12</sup> Women have made tremendous progress in reaching numerical parity in senior management roles in the health sector. More mazes remain to be navigated toward full gender equity and inclusion to ensure that healthcare organizations can continue to optimize the work experience and retain top talent.

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## Statement on research ethics

Ethical review for research involving human participants and written informed consent to participate were not required for this study using national statistical sources, in accordance with institutional requirements of the University of New Brunswick Research Ethics Board.

## Statement on accessibility of research data

The census data that support the findings of the study are available through Statistics Canada's Research Data Centres but restrictions apply to the availability of these confidential data, which were used with permission for the current study, and so are not publicly available.

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