Gender and racialisation of pharmaceutical sector leaders in Canada: a cross-sectional study

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ABSTRACT
Objective/design Lacking diversity in pharmaceutical leadership positions could contribute to inequities in medicine access. The objective of this cross-sectional study was to determine the gender and racial identities of individuals who hold leadership positions in the Canadian pharmaceutical sector.

Participants We compiled a list of all Canadian governmental bodies, pharmaceutical companies and insurance providers. We identified individuals who were part of the leadership team, including executives and members of the board of directors.

Primary outcome measures The main outcomes of the study were the racialisation and gender of the individuals in leadership positions. The gender and racialisation of an individual were determined by reviewing their name, pronouns and institutional profile through internet searches. Two members of the research team performed the assessment and a third reviewer resolved disagreements.

Results We identified 957 individuals holding leadership positions within the pharmaceutical sector, including 280 drug evaluation committee members, 12 governmental executive officers, 273 insurance company executive and board members and 392 executive and board members. Reviewers identified a total of 375 (39.2% of 957) women holding leadership roles, with most of these positions being held by governmental leaders (52.4% of 292) and a minority by insurance (37.0% of 273) and pharmaceutical (30.9% of 392) leaders. There were a total of 157 (16.4% of 957) racialised leaders, with most of these positions being held by governmental leaders (18.5% of 292) and pharmaceutical (18.1% of 392) leaders, and a minority in insurance companies (11.7% of 273). Across the pharmaceutical sector, there were a total of 48 (6.0% of 957) racialised women and 327 (34.2% of 957) white women.

Conclusions Leaders within the Canadian pharmaceutical sector are mostly white men, and racialised women hold few leadership roles. Public policy should recognise that these institutions are mostly led by white men and reasons for this disparity could be explored.

INTRODUCTION

Leaders in the Canadian pharmaceutical sector make decisions on the supply, evaluation and approval of prescription drugs, and thus, these important positions should be filled equitably.1 Governments decide which medicines are available generally and are publicly funded for certain populations, including older adults and social assistance recipients. Pharmaceutical companies decide which medicines are sold in Canada, and insurance companies decide which medicines are covered for the majority of Canadians whose access to medicines is facilitated by private insurance.1 A lack of diversity in pharmaceutical leadership positions may negatively affect medicine access across Canada.2–4 Women and racialised people are under-represented in healthcare leadership positions, and this may be due to discriminatory hiring procedures or health organisational culture and models that prioritise white male leaders.3–5 Women make up 60–70% of pharmacists in Canada, yet only 44% of the leadership roles in both national and provincial pharmacy organisations are held by women, with Ontario having the lowest percentage at 22%.6 Women are less likely to reach higher executive positions than men, even after accounting for experience, level of education and productivity.6

Multiple reports, including governmental reports, have recommended including medicines in Canada’s publicly funded healthcare...
system, but this has not happened.¹ If most decision-makers in the pharmaceutical sector are white men, people experiencing oppression and disadvantages, such as women and racialised people, could be adversely affected by the decisions made by leaders. Intersect- such as women and racialised people, could be adversely people experiencing oppression and disadvantages, makers in the pharmaceutical sector are white men, with an approved drug, including over- companies that offer products covering pharmaceuticals each province and territory. We identified insurance committees and public formulary executive officers for identify the members that make up the drug evaluation committees and public formulary executive officers for each province and territory. We identified insurance companies that offer products covering pharmaceuticals through lists of insurers and web searches. We used the government websites to identify the members that make up the drug evaluation committees and public formulary executive officers for each province and territory. We identified insurance companies that offer products covering pharmaceuticals through lists of insurers and web searches. We used the List of Drug Manufacturers developed by Health Canada to identify all of the pharmaceutical companies in Canada with an approved drug, including over-the-counter treatments, and for each pharmaceutical company on the list, we collected executives and board of directors’ leadership information through institutional websites.

**METHODS**

**Data sources**

For this cross-sectional study, we identified organisations in the pharmaceutical sector, including drug evaluation and approval committees, health insurance providers, public formulary executive officers and pharmaceutical companies. We used the government websites to identify the members that make up the drug evaluation committees and public formulary executive officers for each province and territory. We identified insurance companies that offer products covering pharmaceuticals through lists of insurers and web searches. We used the List of Drug Manufacturers developed by Health Canada to identify all of the pharmaceutical companies in Canada with an approved drug, including over-the-counter treatments, and for each pharmaceutical company on the list, we collected executives and board of directors’ leadership information through institutional websites.

**Inclusion and exclusion criteria**

We included individuals who hold leadership positions in the drug evaluation and approval committees, health insurance companies and pharmaceutical companies. Leadership positions included individuals who were a part of senior executive teams (ie, chief executive officers, head of directors, presidents or individuals who played an influential role in decision-making processes) and members of the board of directors. We excluded health insurance companies that did not provide extended health benefits with drug coverage and pharmaceutical companies that did not have any approved drug products in Canada, which we identified using the Health Canada Drug Product Database. Multinational pharmaceutical companies with approved drug products in Canada that did not have any identified individuals leading the company in Canada or North America were also excluded, but Canadian subsidiaries of companies based elsewhere were included.

**Data extraction**

We identified racialisation and gender using accepted and previously validated methods. We determined whether each individual was a racialised person (racialised or white) and identified their gender (woman, man or as neither) by reviewing the individual’s name, pronouns and institutional profile via internet searches (including profiles on Wikipedia and LinkedIn). Racialisation is a social construct that can be identified by others, and it is distinct from how a person might view their own social positioning; racialisation is not a biological phenomenon that can be determined by measuring a person’s physical characteristics or by genetic testing. Gender identifications by reviewers were based on names, pictures and pronouns used in online profiles. Two researchers (two of KS, HW, AS or AW) independently assessed racialisation and gender for every included individual, and a third reviewer (NP) resolved any disagreements. We also used the Onomap algorithm to identify an individual’s racialisation using their given name to verify that our findings were not subject to the limitations of identifications by reviewers and to include individuals for whom only a name was available.

To determine the reliability of the decisions made by the two raters, we calculated the Cohen’s kappa statistic.

**Patient and public involvement**

It was not appropriate or possible to involve patients or the public in the design, or conduct, or reporting, or dissemination plans of our research.

**RESULTS**

In total, we identified 957 individuals holding leadership positions in the pharmaceutical sector in Canada. These included 280 drug evaluation committee members of 15 committees, 12 governmental executive officers, 273 health insurance executives and board members of 23 insurance companies, and 392 executive and board members of 97 pharmaceutical companies (see online supplemental appendix1).

Names and pictures were identified for 852 individuals (89.0% of 957), which was sufficient to classify these individuals according to their respective gender and racial categories. For the remaining 105 (11.0% of 957) individuals, the algorithm was used to identify racialisation, and the name of the individual was used for gender. Identifications matched between raters by 98.2% for racialisation (Cohen’s kappa 0.935; 95% CI 0.904 to 0.965) and 99.2% for perceived gender (Cohen’s kappa 0.982; 95% CI 0.970 to 0.995). Racialisation based on the Onomap algorithm matched with our manual identifications by 93.83% (Cohen’s kappa 0.751; 95% CI 0.691 to 0.812).

Of all leaders in the Canadian pharmaceutical sector, 375 (39.2% of 957) were women (table 1). There were 153 (52.4% of 292) women governmental leaders (including drug evaluation committee members and health ministry executive officers), 101 (37.0% of 273) women health insurance leaders and 121 (30.9% of 392) women pharmaceutical company leaders (table 2).

There were 157 (16.4% of 957) racialised leaders in the Canadian pharmaceutical sector (table 1). There were
54 (18.5% of 292) racialised governmental leaders, 32 (11.7% of 273) racialised health insurance leaders and 71 (18.1% of 392) racialised pharmaceutical company leaders (table 2).

Across the pharmaceutical sector, there were 48 (5.0% of 957) women who were racialised and 327 (34.2% of 957) women who were white (table 1). The proportions of racialised women by organisation type were 23 (7.9% of 292) governmental leaders, nine (3.3% of 273) health insurance leaders and 16 (4.1% of 392) pharmaceutical company leaders (table 2). In total, there were 109 (11.4% of 957) racialised men and 473 (49.4% of 957) white men in pharmaceutical leadership positions (table 1).

DISCUSSION
We found that the vast majority of leadership roles in the Canadian pharmaceutical sector are held by white men. Racialised women hold the fewest leadership positions. While the appropriate comparison population is not clear, women make up 50% of the general population and 43% of physicians in Canada, while racialised people make up 22% of the general population and 39% of physicians.15–18

Multiple studies have found underrepresentation of racialised women in healthcare leadership roles3 12 19 20 and that parallels findings in other sectors.21 22 Pharmaceutical spending in Canada is greater than $30 billion per year but, compared with other high-income countries, per capita spending is high, access to medication is poor and racialised people are more likely to report cost-related non-adherence to medicines.23 24 In this sense, the pharmaceutical sector could be viewed as exploitative, since some are profiting from a system that harms others.

Multiple government reports have recommended the implementation of national pharmacare to reduce costs and improve equitable access to medication.1 However, these efforts have been unsuccessful,25 in part due to pressure from organisations in the pharmaceutical sector.26 Similar types of proposals have been opposed in the USA at least partially because of racism, that is, an unwillingness to use public funds to increase access to medicines taken by racialised groups.27 Racism and sexism may be impediments to pharmaceutical policy change in Canada. Simply put, decisions largely made by white men create a system that generates profit for some, with people experiencing disadvantages such as racialised women harmed by poor access to medicines that are excluded from Canada’s publicly funded healthcare system.1

Strengths and weakness
This study is unique in that it assessed leaders throughout the pharmaceutical sector. We did not include some organisations, such as patient advocacy groups, pharmacy chains and marketing firms, that can also play important roles in pharmaceutical decision-making, but our findings were consistent across the included organisation types. Our findings were based on publicly available information about the leadership of organisations that could have been outdated or incomplete. We focused on leadership positions and did not provide information about the entire complement of employees in the included organisations. Some of the pharmaceutical companies included are subsidiaries of multinational firms whose offshore headquarters might make decisions that impact Canada. This cross-sectional study does not provide information about changes over time. We used two validated methods to identify racialisation and gender, and although other approaches could have led to different results, it seems unlikely that the main findings depend on the methods. Reproducibility and validity can also be affected by the race and gender of the reviewers,28 which can affect the perceived race and gender classifications of the leaders examined; however, the use of the Onomap algorithm helps to minimise bias and avoids this limitation. We do not provide information about specific racialised groups.

CONCLUSION
Governmental and non-governmental organisations in the pharmaceutical sector exclude racialised women from leadership roles. One approach to an equitable and more efficient pharmaceutical sector in Canada might be to decrease the power of organisations that have failed to ensure fairness, such as by including medicine in Canada’s publicly funded healthcare system. Merely changing the leadership of exploitative organisations may be insufficient, but changes in the leadership of pharmaceutical organisations could be tracked alongside changes in access to medicines and health outcomes.

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<tr>
<th>Table 1</th>
<th>Gender and racialisation, overall</th>
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<tr>
<td></td>
<td>Woman</td>
</tr>
<tr>
<td>Racialised</td>
<td>48 (5.0%)</td>
</tr>
<tr>
<td>White</td>
<td>327 (34.2%)</td>
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<tr>
<td>Total</td>
<td>375 (39.2%)</td>
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<table>
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<tr>
<th>Table 2</th>
<th>Gender and racialisation, by organisation type</th>
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<tbody>
<tr>
<td></td>
<td>Racialised women</td>
</tr>
<tr>
<td>Government</td>
<td>23 (2.4%)</td>
</tr>
<tr>
<td>Pharmaceutical companies</td>
<td>16 (1.7%)</td>
</tr>
<tr>
<td>Insurance companies</td>
<td>9 (0.9%)</td>
</tr>
<tr>
<td>Total</td>
<td>48 (5.0%)</td>
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Contributors NP conceptualised and designed the study, coordinated and supervised data collection, drafted the initial manuscript and critically reviewed and revised the manuscript. KS, AW, AS and HW designed the data collection instruments, collected data, carried out the initial analyses and critically reviewed and revised the manuscript for important intellectual content. All authors approved the final manuscript as submitted and agreed to be accountable for all aspects of the work. NP is the guarantor.

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Competing interests NP reports funding from the Canadian Institutes of Health Research and the Ontario SPOR Support Unit. No competing interests to report.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

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REFERENCES