



Determinants of non-vaccination for seasonal influenza in Canada

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Disclosure Statement

- I have no affiliation (financial or otherwise) with a pharmaceutical, medical device or communications organization.

Outline

- Background
- Objectives
- Methods
- Results
 - Proportion of non-vaccination
 - Determinants of non-vaccination
 - Reasons for non-vaccination
- Strengths and Limitations
- Conclusions

Background

- Influenza is an important cause of morbidity and mortality.
 - Influenza and pneumonia are the 7th leading cause of death in Canada.
- The vaccine remains the best protection against seasonal influenza.
- Population targeted for vaccination:
 - Those at high risk of influenza-related complications or hospitalisations such as:
 - Those with chronic health conditions;
 - People 65 years of age and older;
- National vaccination coverage goal (2017) is 80% for the following high-risk groups:
 - Adults aged 18-64 years old with high risk conditions;
 - Adults aged 65 years of age and older;
 - Health care professionals.

Objectives

- Measure the proportion of individuals not vaccinated;
- Measure associations between several sociodemographic factors and non-vaccination;
- Describe the reasons reported for non-vaccination.

Methods

- Data source:
 - Canadian Community Health Survey (CCHS) 2013-14;
 - Cross-sectional study conducted continuously by Statistics Canada over two-year collection cycles;
- Variables:
 - Dependent: Self-reported influenza vaccination within the previous 12 months.
 - Independent: age, sex, province or territory, education, household income, country of birth, aboriginal identity, mother tongue, area of residence, having a family doctor, having a chronic medical condition (CMC) and self-perceived health.
- Groups:
 - 65 years of age or older;
 - 18 to 64 years of age, with a CMC;
 - 18 to 64 years of age, without a CMC.
- Statistical analyses:
 - Proportions of non-vaccination and reported reasons for non-vaccination determined for each group.
 - Logistic regression used to measure associations between non-vaccination and socio-demographic factors.

Results

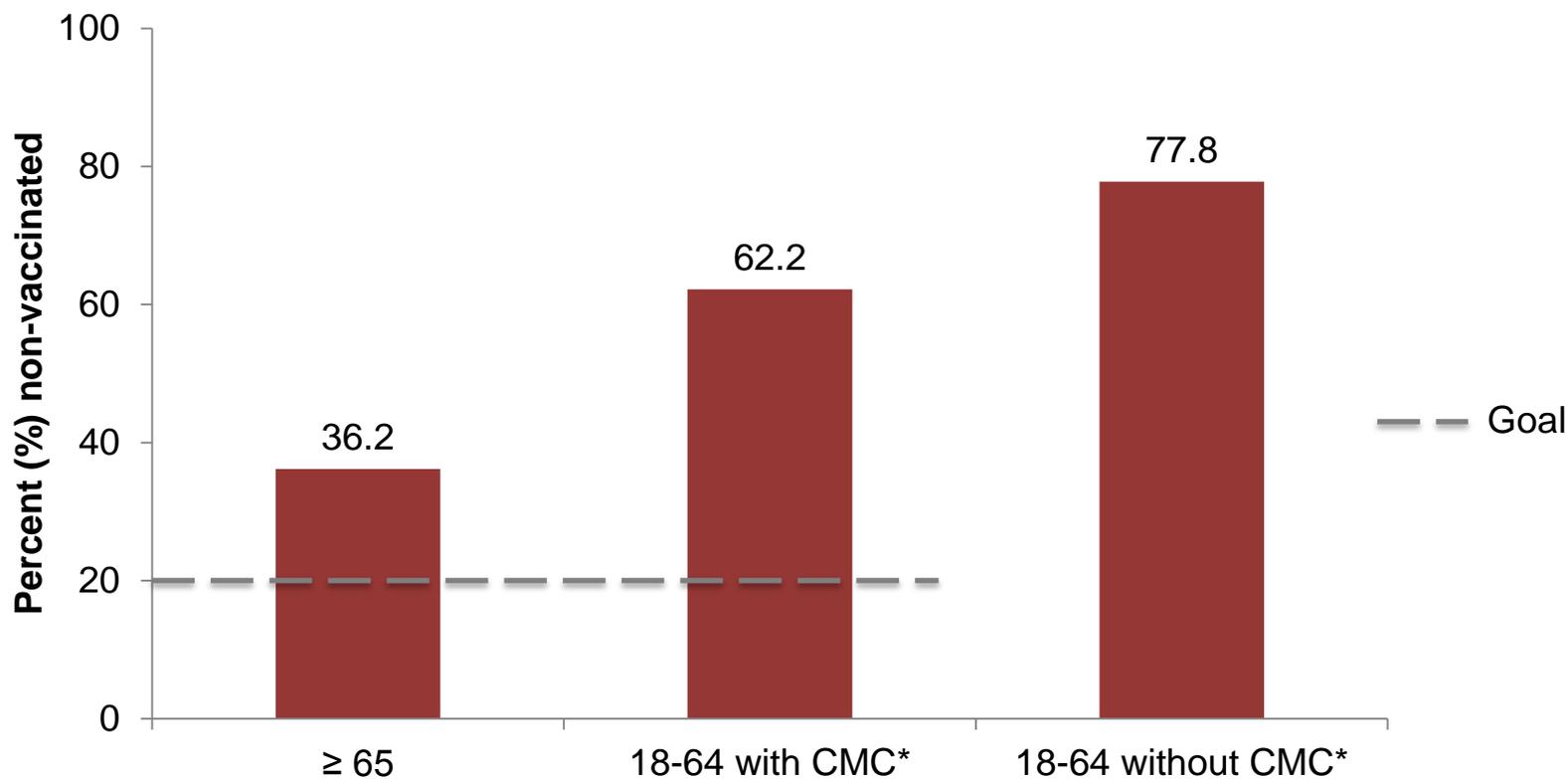


Figure 1. Proportion of non-vaccination against seasonal influenza, by specific groups

* Chronic medical condition (*asthma, emphysema or chronic bronchitis, diabetes, heart disease, effect of a stroke or cancer*)

Results

Table 1. Summary of determinants of non-vaccination for influenza, by specific groups

Factors	≥ 65	18-64 with CMC*	18-64 without CMC*
Being younger	↑	↑	↑
Being a man	–	↑	↑
Province or territory	V	V	V
Having lower level of education	↑	↑	↑
Lower household income	↑	–	↑
Being born outside Canada	↑	–	–
Aboriginal identity	–	–	–
Mother tongue	V	V	–
Living in a rural area	↑	–	↑
Not having a family doctor	↑	↑	↑
Not having a CMC*	↑	n/a	n/a
Excellent self-perceived health	↑	↑†	–

* Chronic medical condition (asthma, emphysema or chronic bronchitis, diabetes, heart disease, effect of a stroke or cancer);

↑ Increase of non-vaccination (OR significant at $p < 0,05$); V Differences in non-vaccination between categories; – No association;

n/a : Not applicable; † Good and Very good perceived health was also associated with non-vaccination.

Results

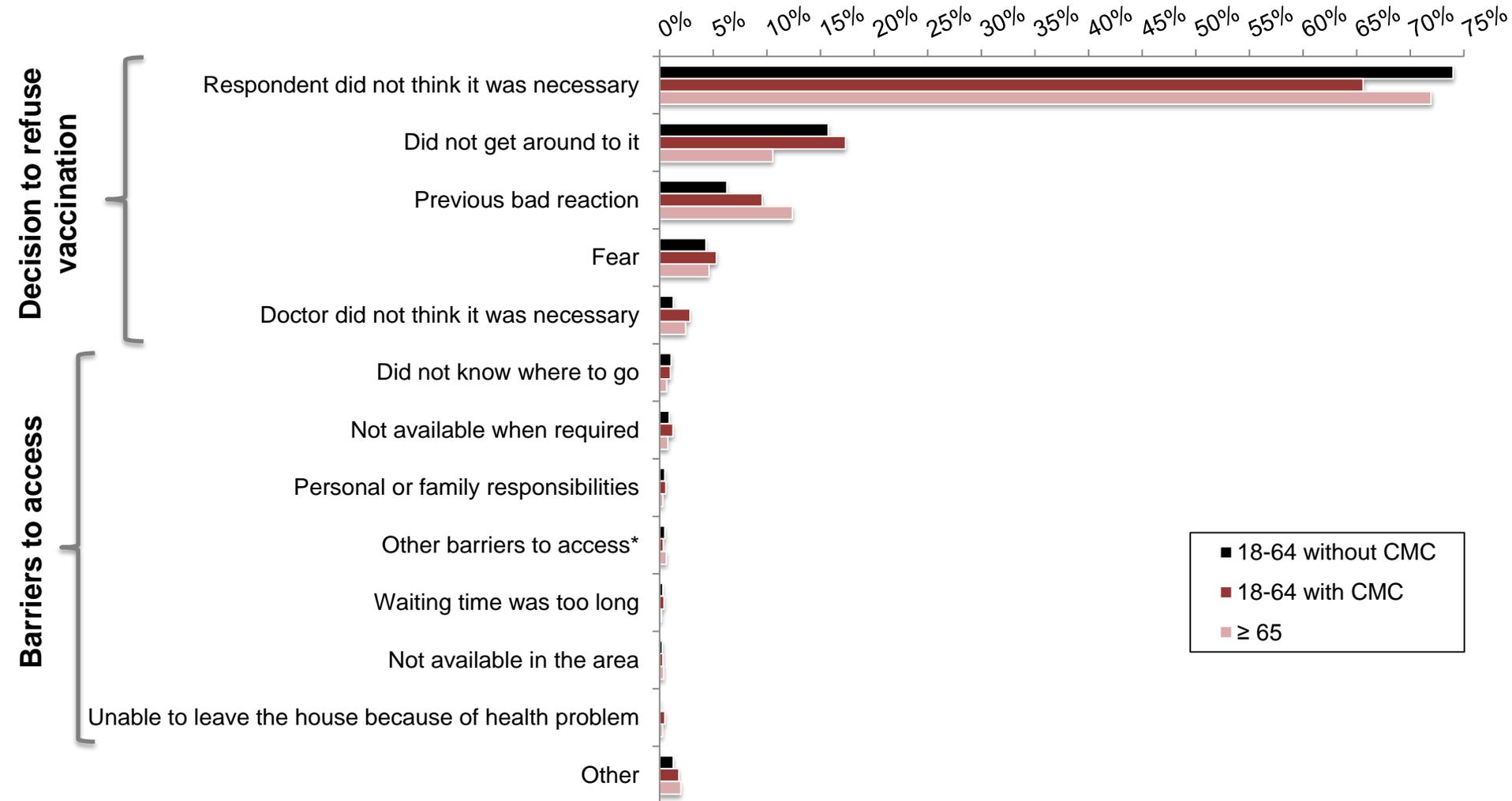


Figure 2. Reasons reported for non-vaccination, by specific groups

* Includes cost, language problem and transport problem.

Results - Summary

- Proportions of non-vaccination:
 - National vaccination coverage goals were not met.
 - Proportions of non-vaccination were lowest for those ≥ 65 (36%), and highest for those 18-64 without a CMC (78%).
- Determinants of non-vaccination:
 - For all groups:
 - Younger age;
 - Lower education level;
 - Not having a regular/family physician.
 - Among those 18-64 years old with or without a CMC:
 - Being a man.
- Reasons for non-vaccination:
 - “Not necessary according to respondent” was the most frequently reported reason for non-vaccination (71% overall).
 - More than 95% of the reported reasons were a decision to refuse vaccination, whereas less than 5% were a barrier to access.

Strengths and Limitations

- Strengths:
 - Large sample size (n= 108 700);
 - Very representative of the Canadian population;
 - High response rate: 66%;
 - Identifies determinants among a broader scope of factors, compared to what is currently available in the literature.
- Limitations:
 - Recall bias due to self-reported data;
 - Some populations excluded from the study;
 - Not all high-risk conditions related to influenza are included in the survey;
 - Nature of the study prevents examination of causal relationships.

Conclusions

- Better understanding the determinants of non-vaccination can guide promotion activities to target vulnerable populations with a need for vaccination.
 - More research is needed on vulnerable populations to understand the systemic barriers to vaccination.
- Continue to advertise that vaccination is for everyone, not only the elderly.
- Promote that a physician's prescription is not required to receive the flu shot and that it is available in several different locations.
- Promotion efforts should particularly target the population with a CMC to educate them about the severity of influenza and the increased risk of complications related to their condition.
- For more information:
 - Roy M, Sherrard L, Dubé E, Gilbert NL. Determinants of non-vaccination against seasonal influenza. Health Reports 2018.
<https://www150.statcan.gc.ca/n1/pub/82-003-x/2018010/article/00003-eng.htm>.

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 - Jennifer Pennock, PHAC
 - Lyne Cantin, PHAC

THANK YOU / QUESTIONS

References

- (1) Public Health Agency of Canada. Canadian Immunization Guide Chapter on Influenza and Statement on Seasonal Influenza Vaccine for 2016-2017. 2016; Available at: <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/canadian-immunization-guide-chapter-on-influenza-statement-on-seasonal-influenza-vaccine-2016-2017-advisory-committee-statement.html#iii1>
- (2) Public Health Agency of Canada. Public Health Reminder: Seasonal Flu. 2016; Available at: <https://www.canada.ca/fr/sante-publique/services/avis-sante-publique/2014/rappel-matiere-sante-publique-grippe-saisonniere.html>. Accessed 09/18, 2017.
- (3) Public Health Agency of Canada. Vaccination Coverage Goals and Vaccine Preventable Disease Reduction Targets by 2025. 2018; Available at: <https://www.canada.ca/en/public-health/services/immunization-vaccine-priorities/national-immunization-strategy/vaccination-coverage-goals-vaccine-preventable-diseases-reduction-targets-2025.html>. Accessed 01/16, 2018
- (4) Statistics Canada. Canadian Community Health Survey (CCHS) – Annual component. User Guide. 2014 and 213-14 Microdata files. June 2015:1-102.
- (5) Statistics Canada. The 10 leading causes of death, 2013. 2017; Available at: <https://www150.statcan.gc.ca/n1/pub/82-625-x/2017001/article/14776-eng.htm>. Accessed 10/12, 2017.

APPENDIX

Determinants of non-vaccination for seasonal influenza in Canada

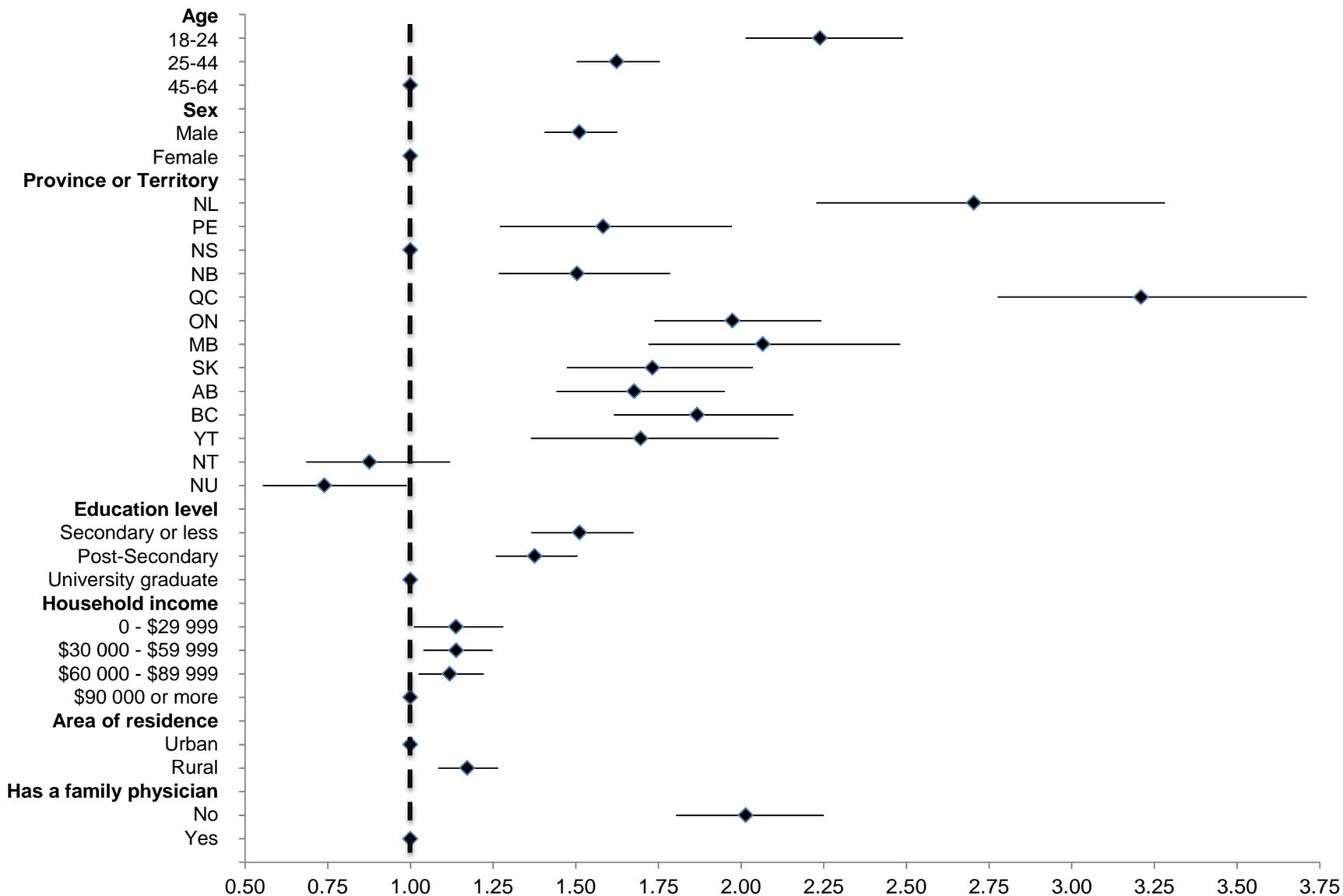


Figure 3. Adjusted odds ratio (with 95% CI) for those 18-64 without a CMC

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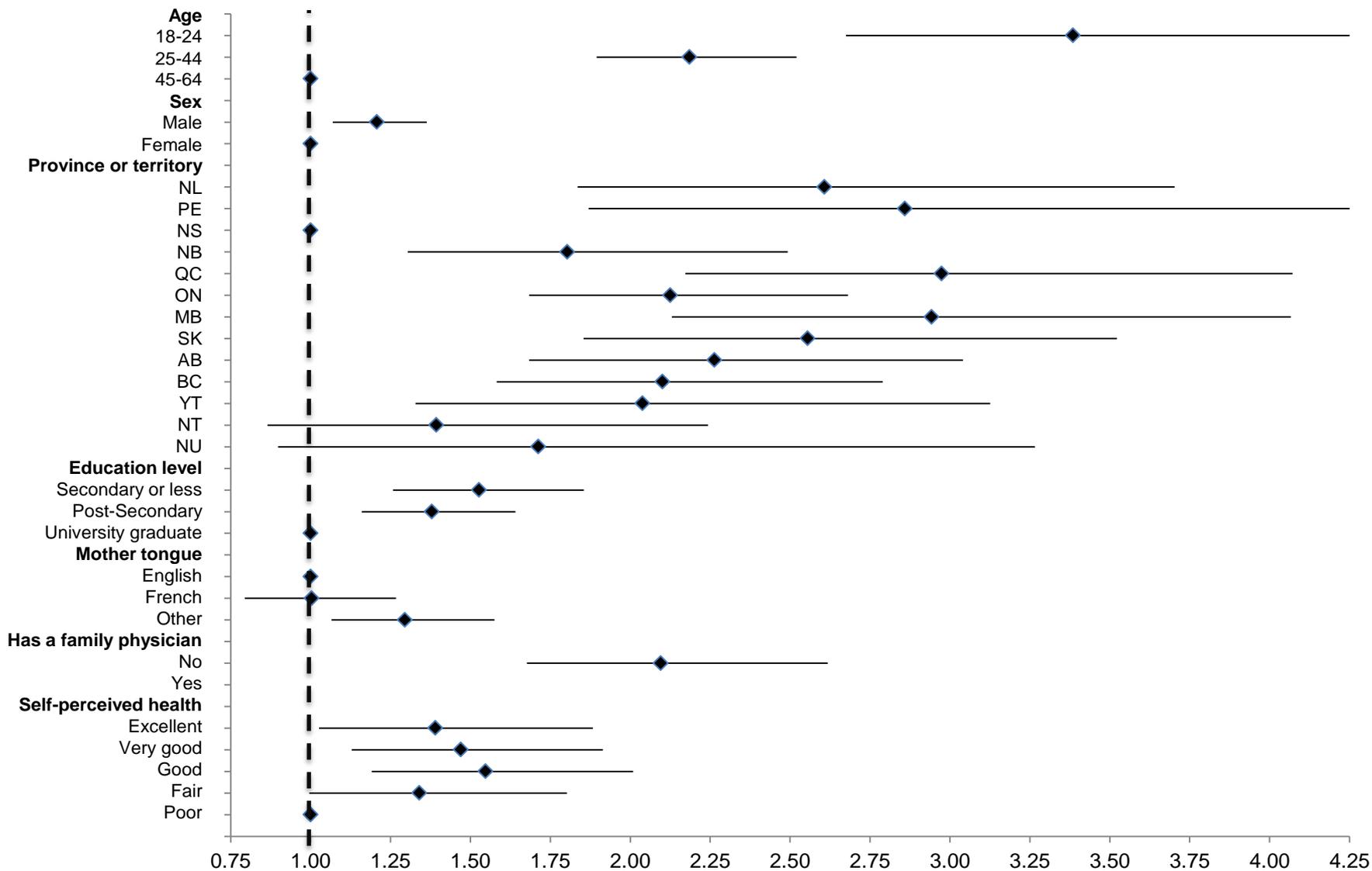


Figure 4. Adjusted odds ratio (with 95% CI) for those 18-64 with CMC

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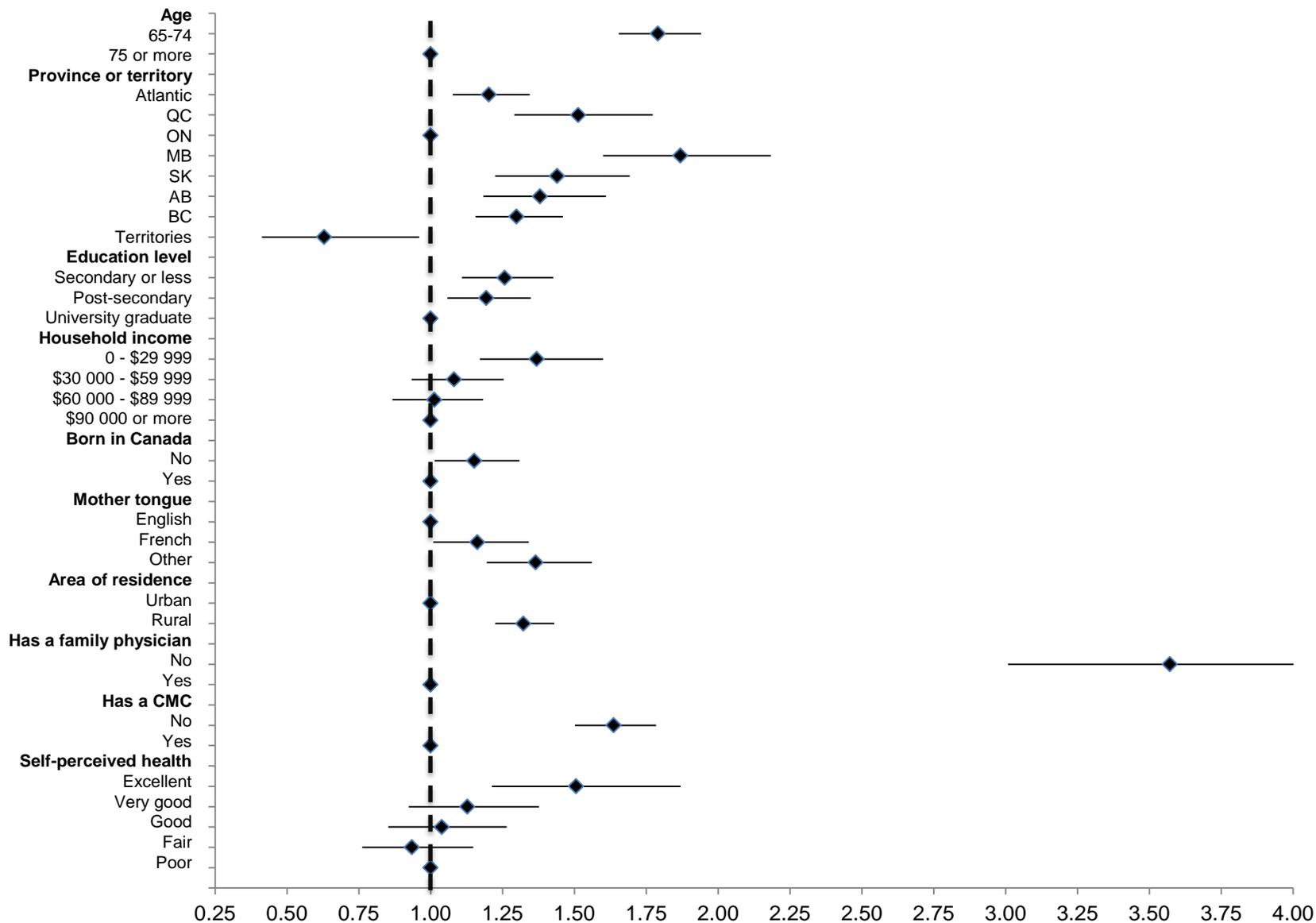


Figure 5. Adjusted odds ratio (with 95% CI) for those 65 and older