

Emergency department utilization and ambulatory care sensitive chronic conditions

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Background

- An emergency department (ED) visit:
 - Urgent medical problem
 - Substitute for primary care
- Inadequate primary care is a risk factor for an ED visit:
 - Lack of a primary physician
 - Low continuity of care

Ambulatory-care sensitive chronic conditions (ACSSC)

- Originally: asthma, hypertension, congestive heart failure, chronic obstructive pulmonary disease, diabetes
- Better primary care access associated with fewer hospitalizations for ACSSC (among <65)
- Limitations of previous research
 - Most limited to effect on hospitalization (only 2 US studies of ED use)
 - Most in populations under 65
 - Measures of chronic diseases indirect or ecologic

Objective

- Using a representative population sample:
 - Describe the relationship of primary care measures to ED visits
 - Compare these relationships in those with and without ACSCC
- Hypothesis:
 - Relationships will be stronger among those with an ACSCC

Data source

- Canadian Community Health Survey cycles 2.1 and 3.1 for Quebec.
- Adults (age 18 and over)
- Measure of ED use:
 - Among those reporting any contact with a GP in past 12 months, what was place of last contact (ED vs other)
- Additional exclusions:
 - Hospitalized in last 12 months
 - No GP contact in last 12 months

Measures

- Chronic conditions diagnosed by health professional
 - ACSCC (diabetes, hypertension, asthma, chronic obstructive pulmonary disease, heart disease)
 - Other chronic conditions
 - No chronic conditions

Primary care variables

- Lack of regular physician
 - “Do you have a regular medical doctor?” (NO)
- Unmet health care needs:
 - “During past 12 months, was there ever a time when you felt that you needed health care but didn’t receive it?” (YES)
- Lack of available health care (cycle 2.1 only)
 - “How would you rate the availability of health services in your community?” (FAIR, POOR)

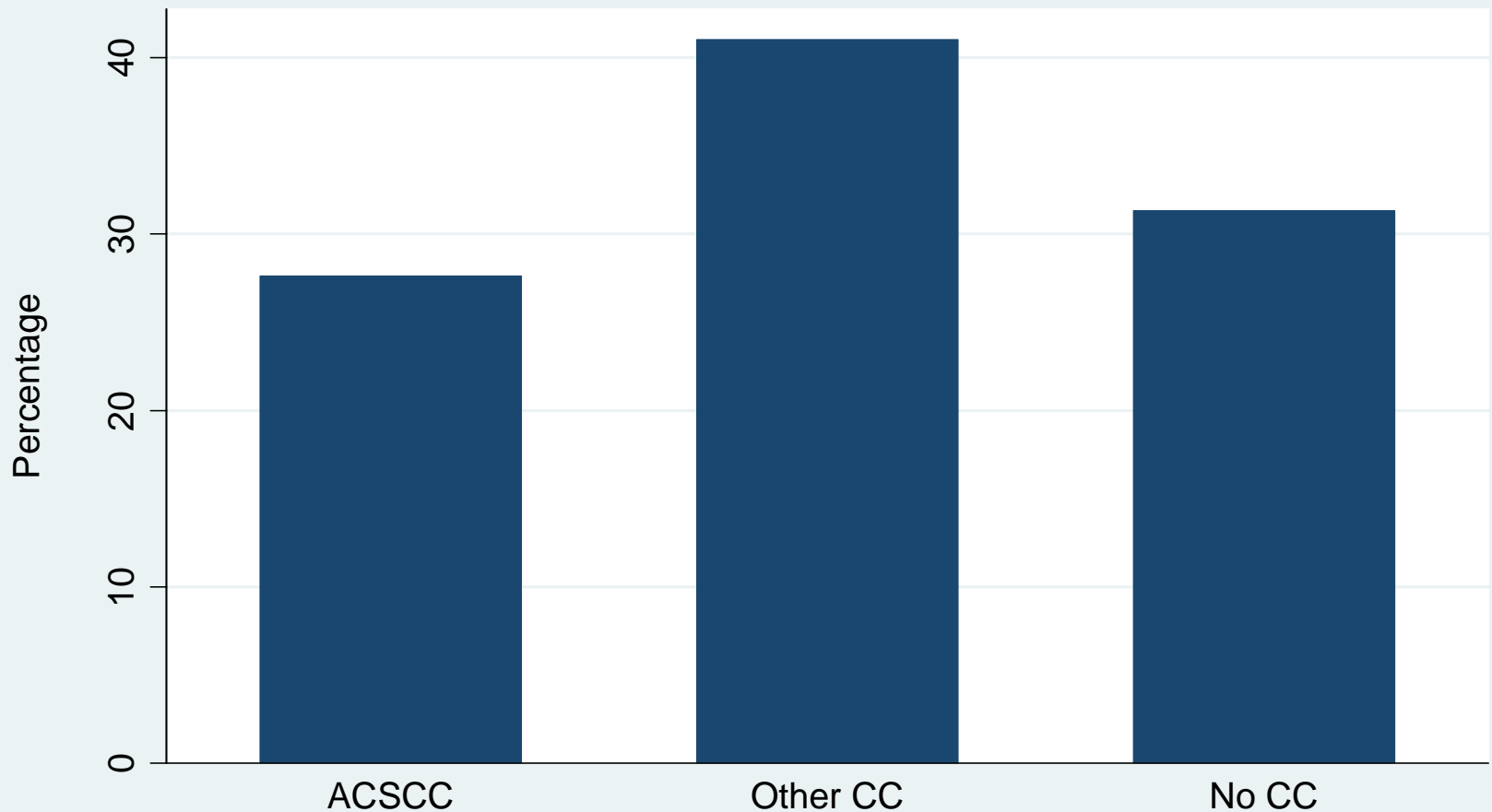
Covariates

- Sociodemographic:
 - Age, sex, health region, income, education, years in Canada
- Health status:
 - Perceived health, change in health, activity limitation, ADL disability, # chronic conditions
- Health services:
 - Regular GP, unmet needs, availability of care, # GP contacts, # specialist contacts, # nurse contacts, homecare services.

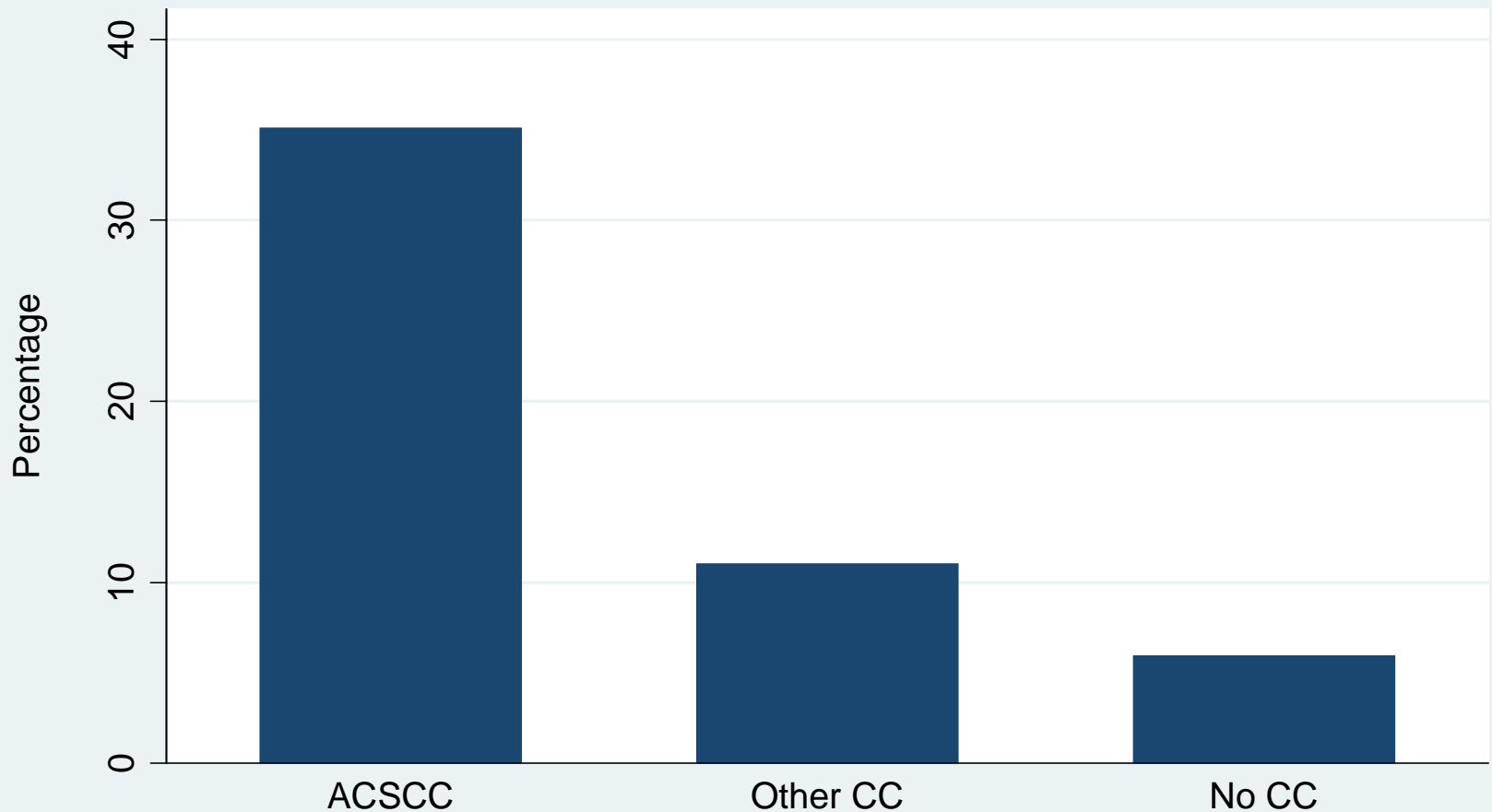
Analysis

- Logistic regression modeling for complex surveys
 - Bootstrap estimation of variances
 - Implemented in SAS macros and SUDAAN software
- Adjustment for:
 - Age and sex
 - All socio-demographic variables
 - Health status variables
 - Health services variables
 - All variables
- Interactions tested:
 - Chronic conditions and primary care measures

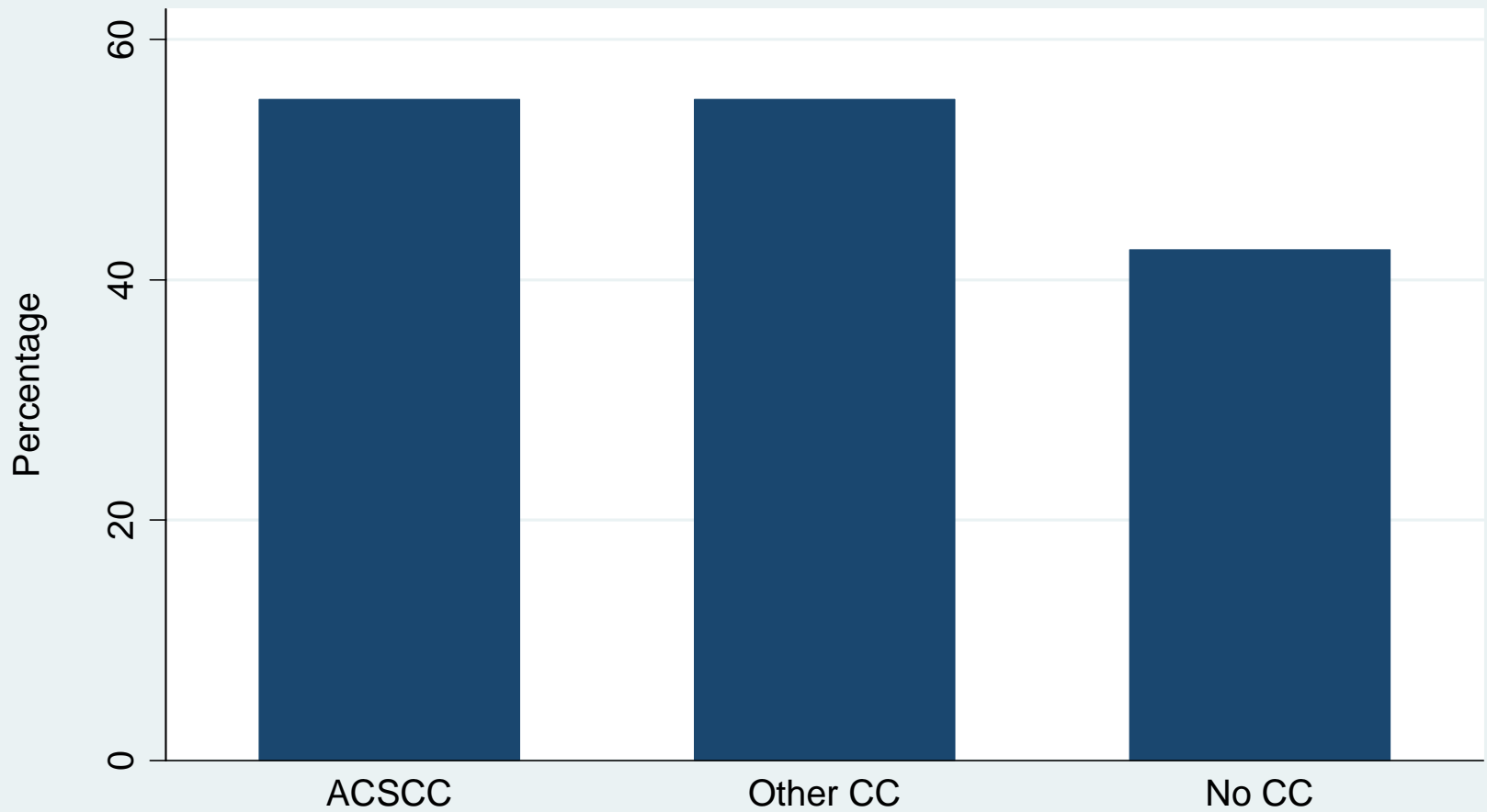
Population prevalence of chronic condition categories (n=53,456)



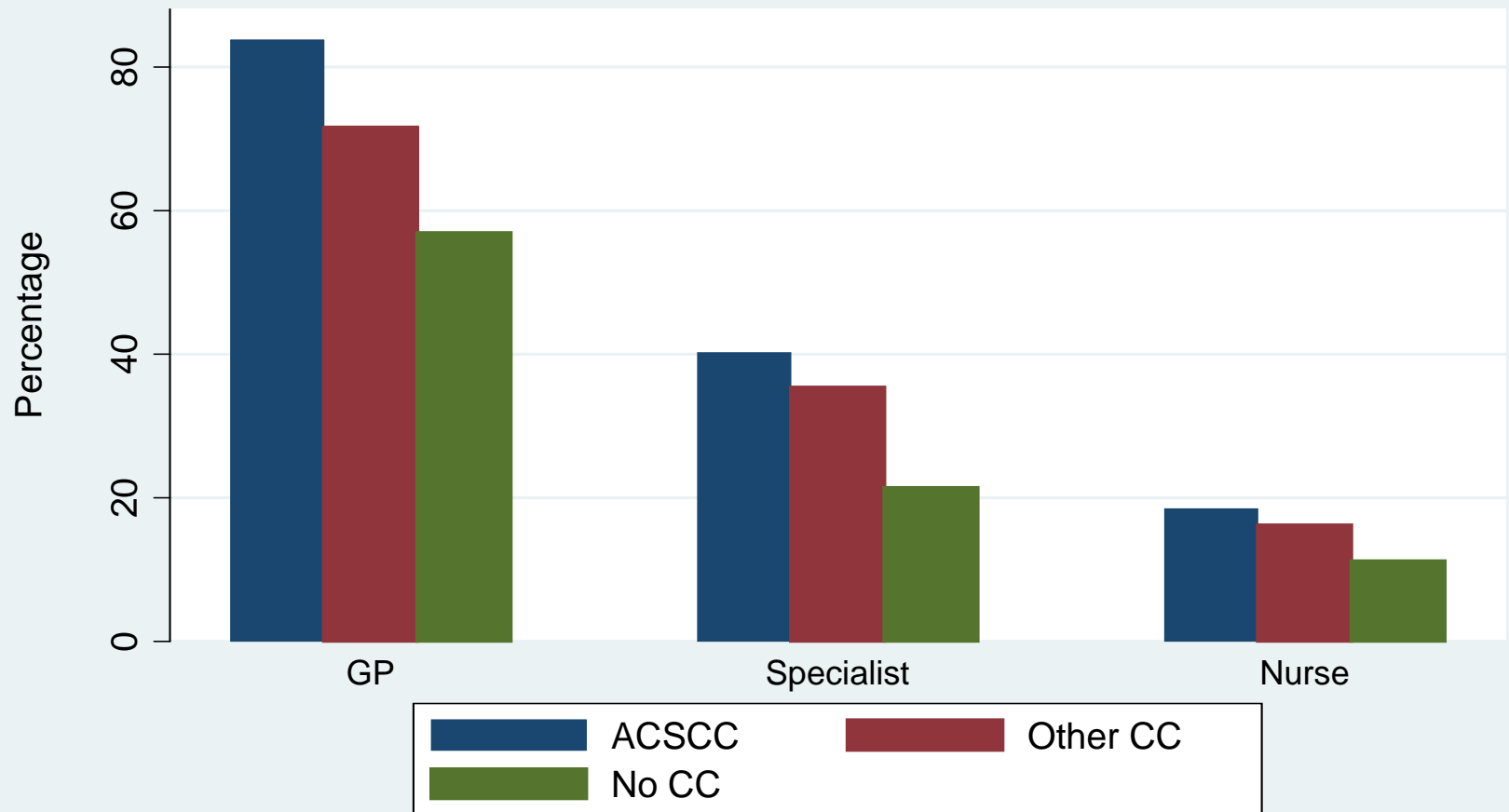
Percent aged 65+ by chronic conditions (n=53,456)



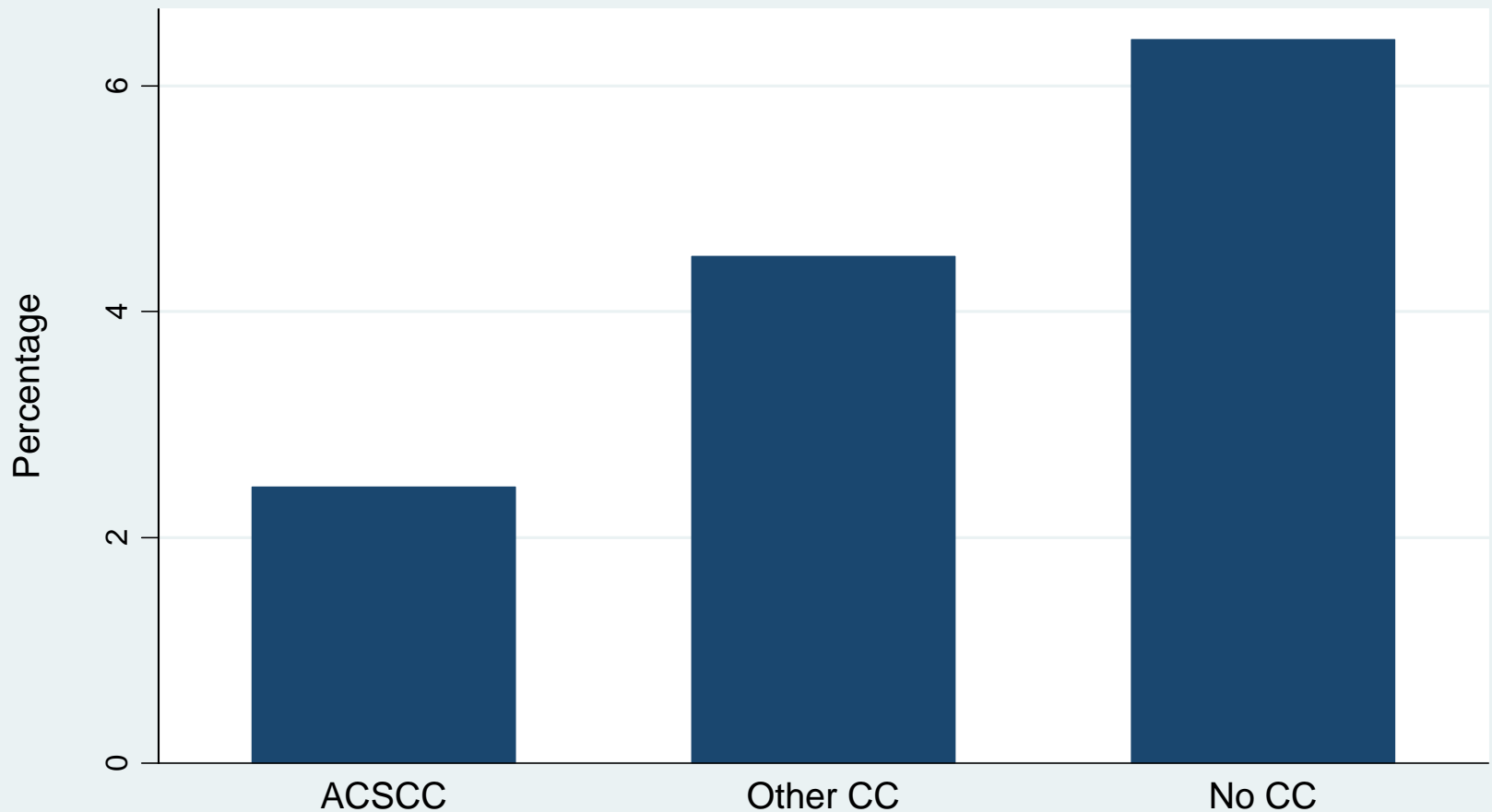
Percent female by chronic conditions (n=53,456)



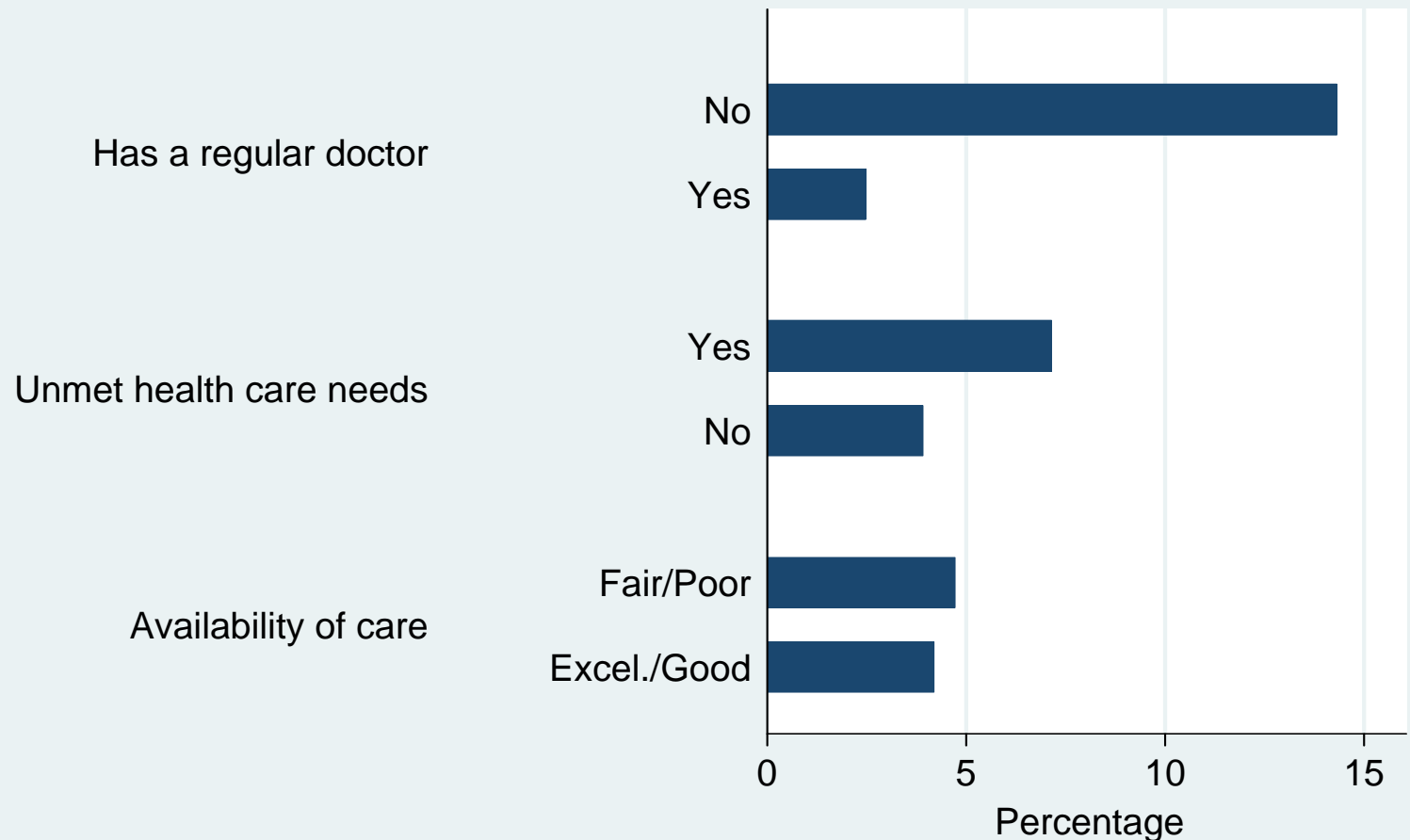
Contact with health professionals in past 12 months by chronic conditions (n=53,456)



Last contact in ED by chronic condition group (n=33,516 with GP visit)



Percent with last contact in ED by primary care measures (n=33,516, 16,276 with GP visit)



Last contact in ED and ACSCC (vs no CC). Odds ratios and 95% CI, n=33,516 with GP visit

Adjusted for:

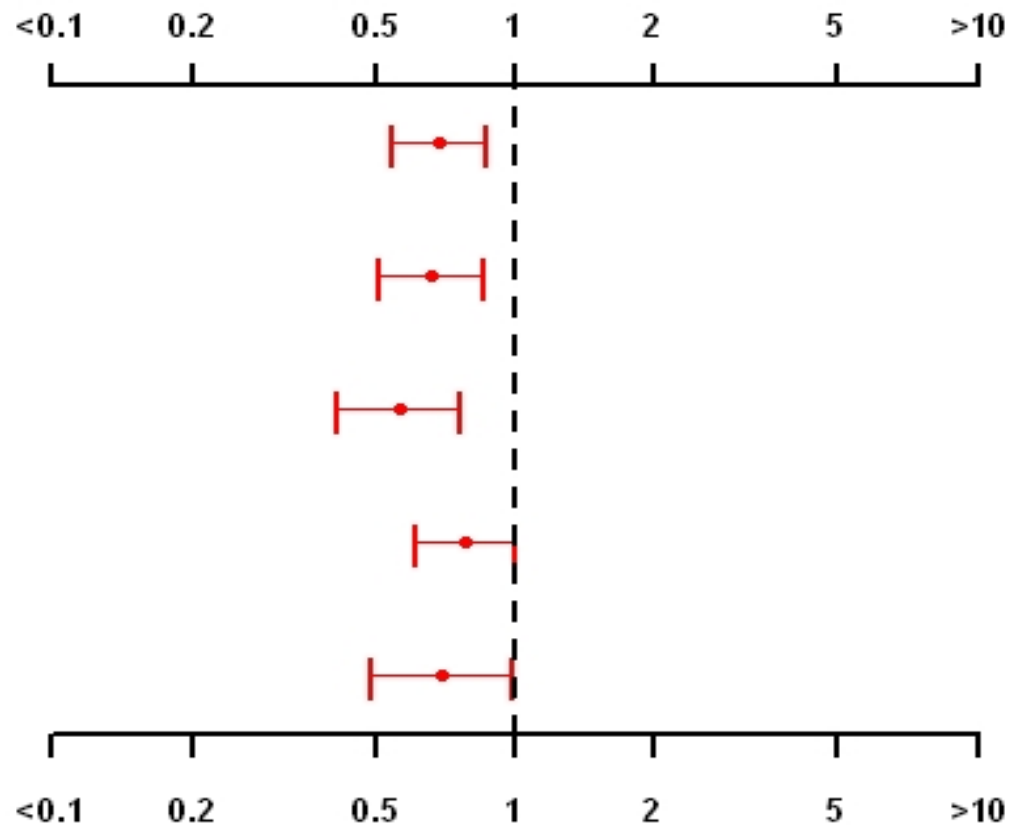
Age & sex

Other socio-economic variables

Health status variables

Health services variables

Full model



Last contact in ED and lack of a regular GP

Odds ratios and 95% CI, n=33,516 with GP visit.

Adjusted for:

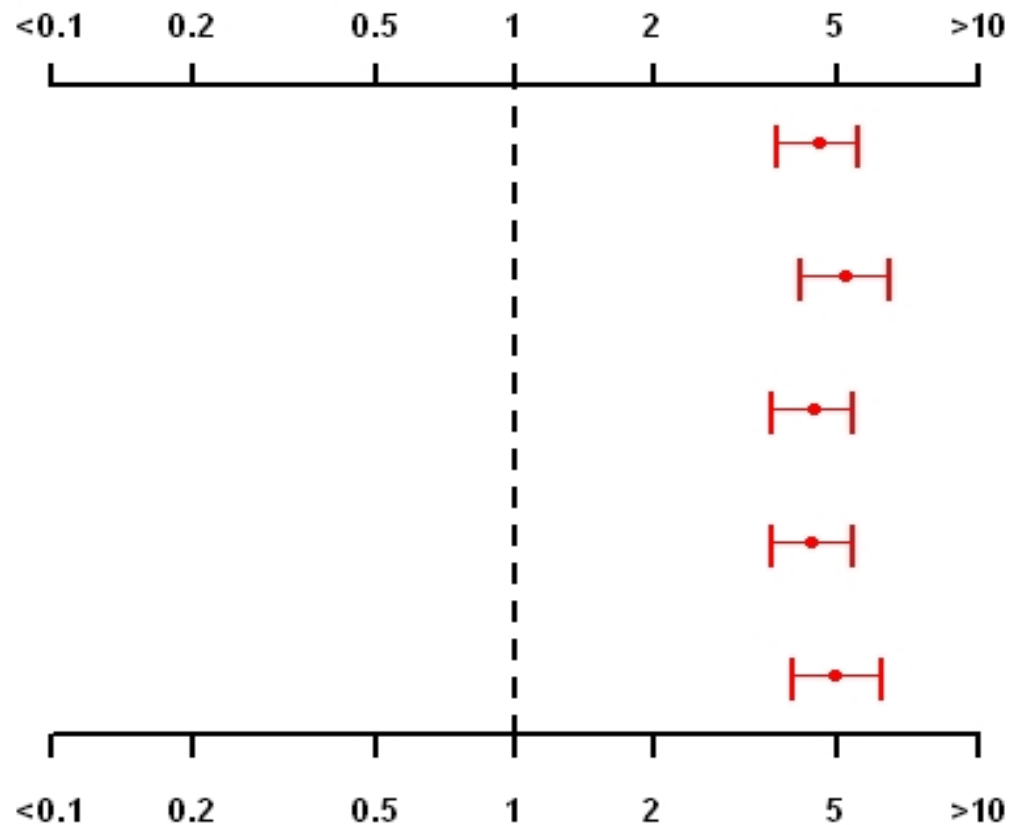
Age & sex

Other socio-economic variables

Health status variables

Health services variables

Full model



Last contact in ED and unmet needs

Odds ratios and 95% CI, n=33,516 with GP visit.

Adjusted for:

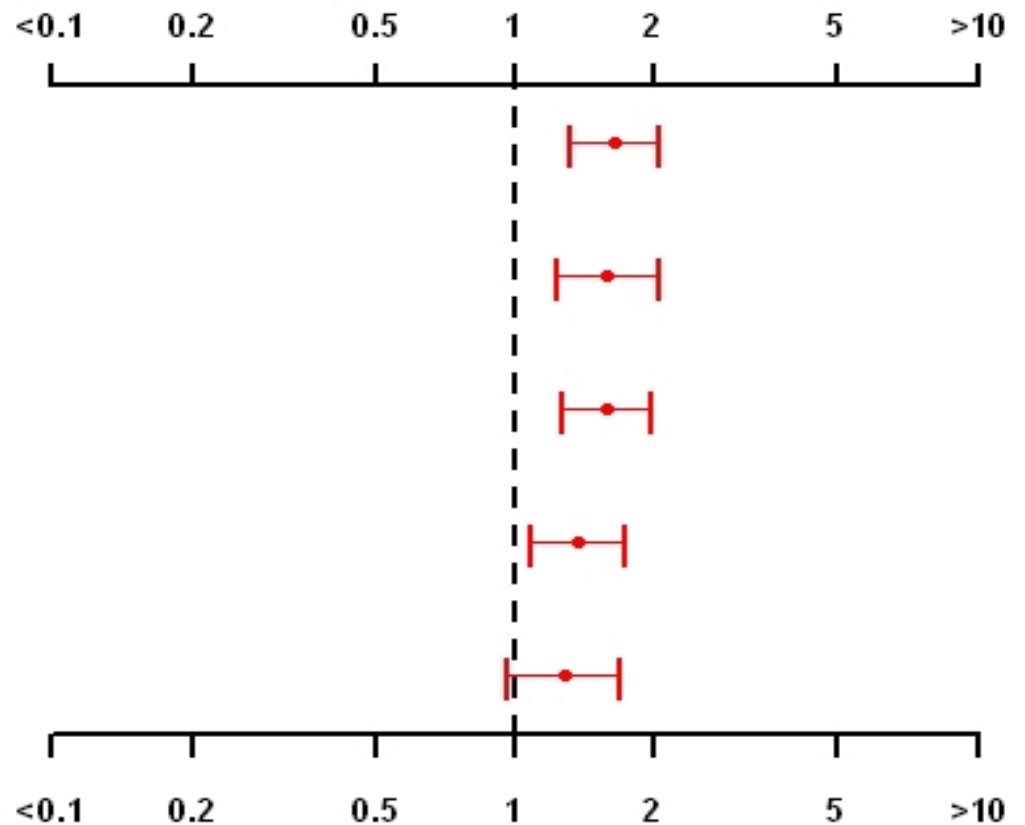
Age & sex

Other socio-economic variables

Health status variables

Health services variables

Full model



Last contact in ED and less available health care

Odds ratios and 95% CI, n=16,276 with GP visit, cycle 2.1 only.

Adjusted for:

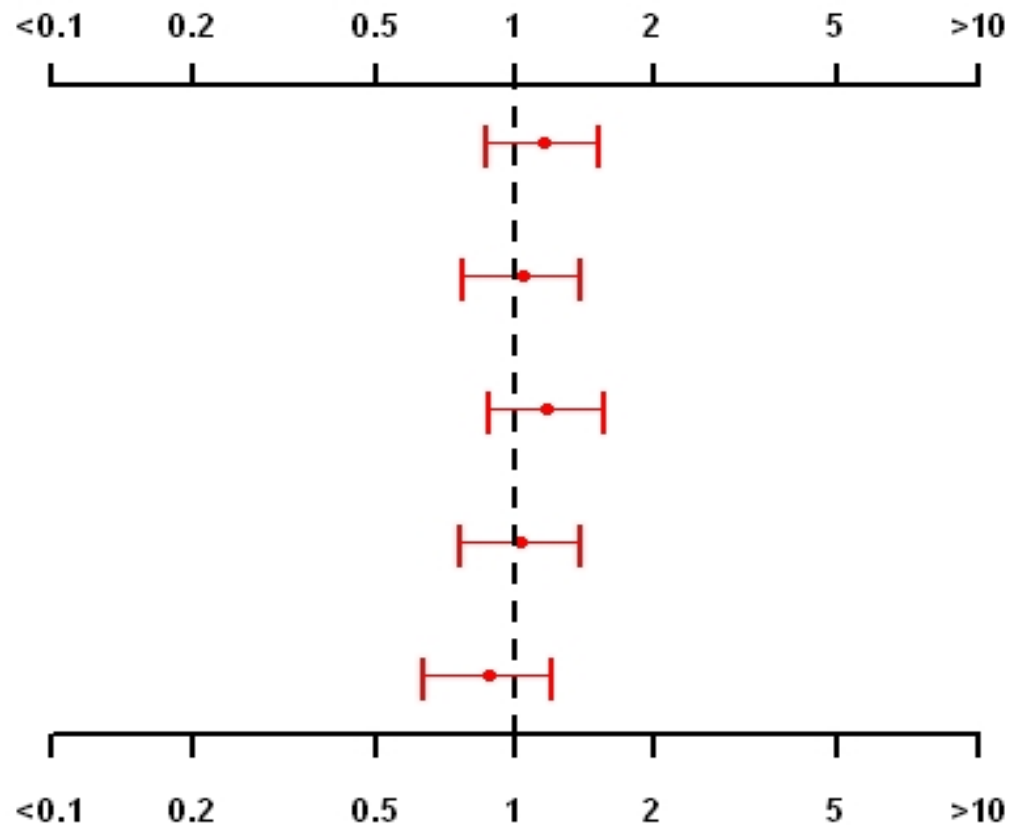
Age & sex

Other socio-economic variables

Health status variables

Health services variables

Full model



Last contact in ED and lack of regular physician, stratified by chronic conditions. Odds ratios and 95% CI, adjusted for age and sex, n=33516, interaction p value NS

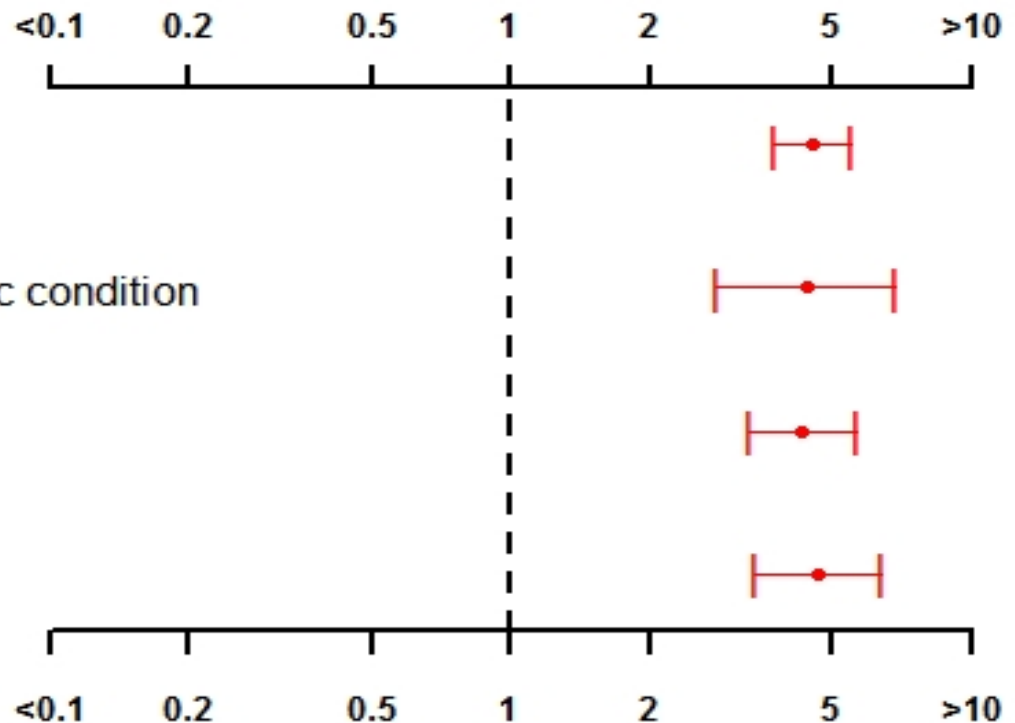
Stratification:

Not stratified

Ambulatory care sensitive chronic condition

Other type of chronic condition

No chronic condition



Last contact in ED and unmet needs, stratified by chronic conditions. Odds ratios and 95% CI, adjusted for age and sex, n=33516, interaction p value NS

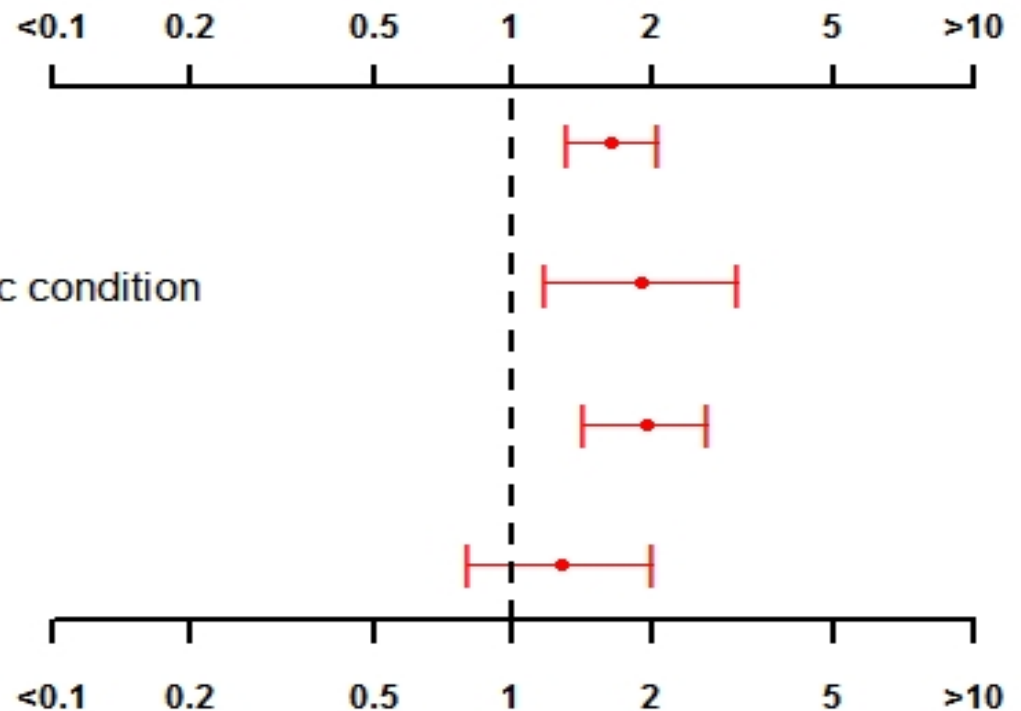
Stratification:

Not stratified

Ambulatory care sensitive chronic condition

Other type of chronic condition

No chronic condition



Last contact in ED and less available health care, stratified by chronic conditions. Odds ratios and 95% CI, adjusted for age and sex, n=16,276, interaction p value for ACSCC = 0.09

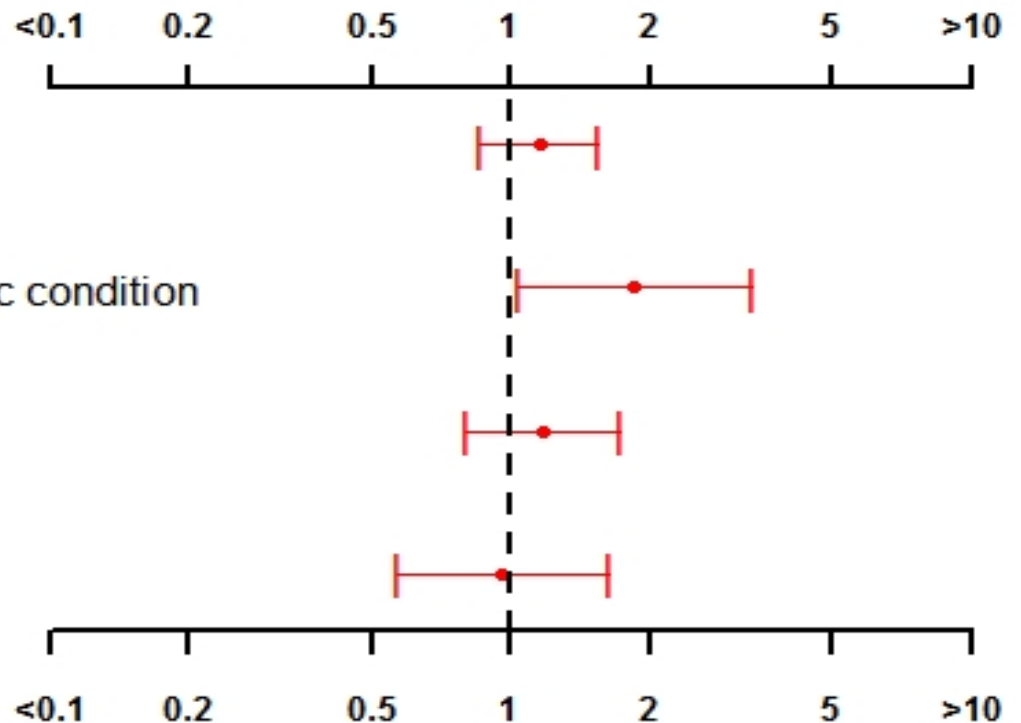
Stratification:

Not stratified

Ambulatory care sensitive chronic condition

Other type of chronic condition

No chronic condition



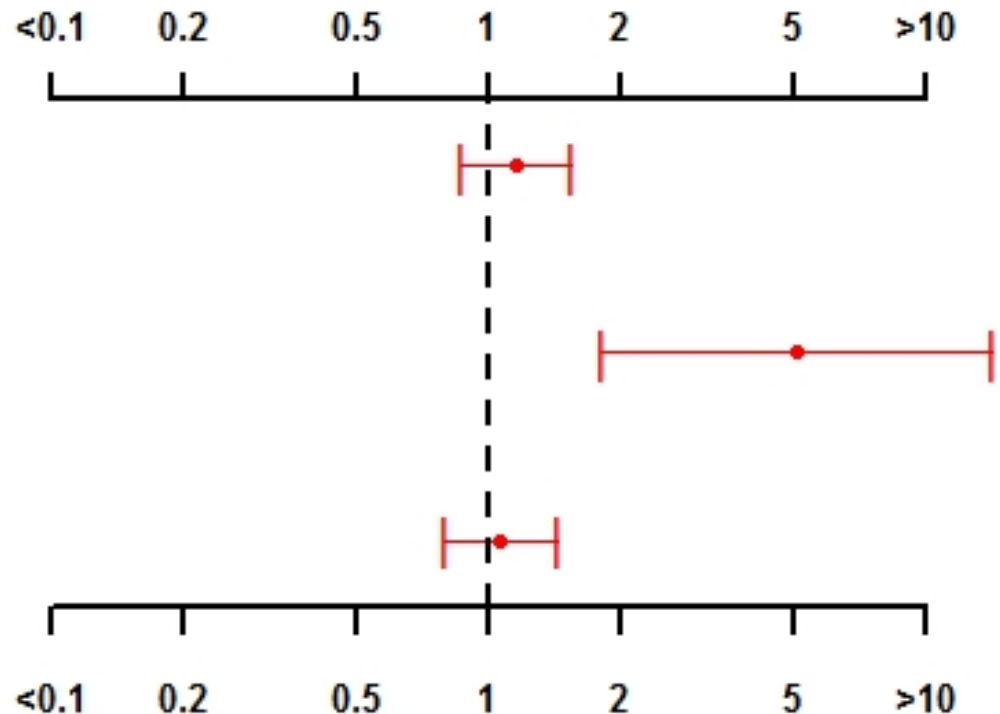
Last contact in ED and less available health care, stratified by asthma Odds ratios and 95% CI, adjusted for age and sex, n=16,276, interaction p value = 0.004

Stratification:

Not stratified

Asthma

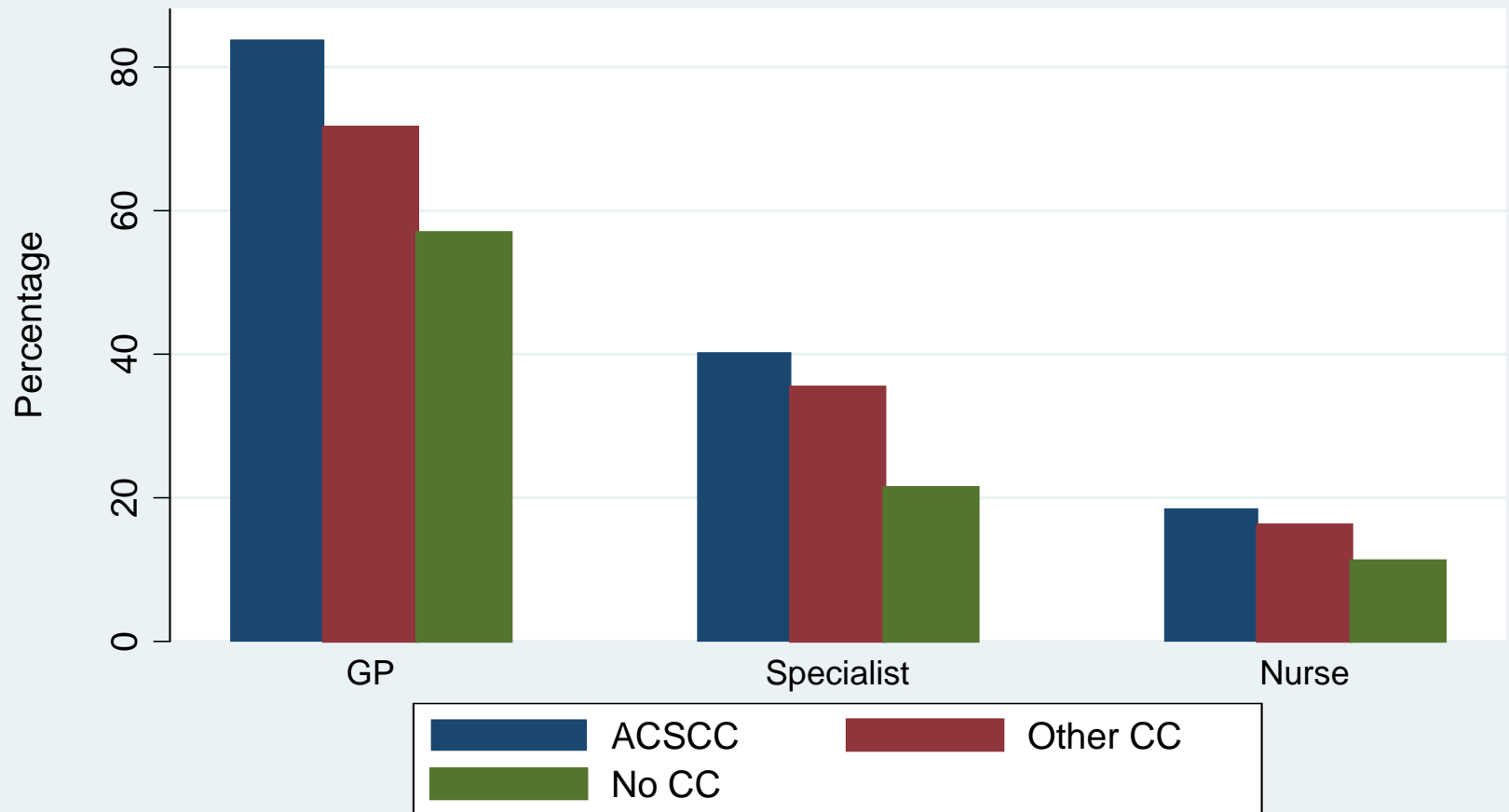
No asthma



Conclusions

- Among Quebec adults who have contacted a GP in past year and not been hospitalized:
 - Adults with a regular MD, and with no unmet needs are less likely to see the doctor in the ED
 - These relationships are similar in those with and without chronic conditions
 - Among those with an ACSCC, lower perceived availability of health care is associated with seeing doctor in the ED.

Contact with health professionals in past 12 months by chronic conditions (n=53,456)



Last contact in ED and other CC (vs no CC). Odds ratios and 95% CI, n=33,516 with GP visit

Adjusted for:

Age & sex

Other socio-economic variables

Health status variables

Health services variables

Full model

