

Supplementary Table 1. Exclusion criteria and number of participants removed

| <b>Exclusion order</b> | <b>Exclusion criterion</b>                               | <b>Number removed</b> | <b>Number remaining</b> |
|------------------------|--|-----------------------|-------------------------|
| 0                      | Initial cohort   | .                     | 36,163                  |
| 1                      | Veterans without a service end date                      | 1,362                 | 34,801                  |
| 2                      | Veterans with more than 1 record                         | 403                   | 34,398                  |
| 3                      | Veterans separated after Dec. 31, 2019                   | 358                   | 34,040                  |
| 4                      | Veterans with OHIP eligibility during their service      | 1,333                 | 32,707                  |
| 5                      | Veterans without OHIP eligibility after leaving military | 207                   | 32,500                  |
| 6                      | Veterans <17 years when they enlisted                    | 740                   | 31,760                  |
| 7                      | Lost when creating analytic cohort (match unavailable)   | 1                     | 31,759                  |

Supplementary Table 2. Crude and adjusted prevalence risk ratios of chronic disease, female vs. male (reference group) Veterans with at least one full year of follow up

|              | N events (%)     |  | Crude RR<br>(95% CI) | p       | aRR <sup>^</sup><br>(95% CI) | p       |
|--------------|------------------|--|----------------------|---------|------------------------------|---------|
|              | Male<br>Veterans | Female<br>Veterans                       |                      |         |                              |         |
| Asthma       | 1,185 (4.6)      | 292 (6.5)                                | 1.45 (1.27-1.65)     | <0.0001 | 1.26 (1.10-1.44)             | 0.001   |
| COPD         | 415 (1.6)        | 61 (1.3)                                 | 0.84 (0.64-1.11)     | 0.22    | 1.04 (0.79-1.37)             | 0.79    |
| Hypertension | 3,513 (13.5)     | 296 (6.5)                                | 0.45 (0.40-0.51)     | <0.0001 | 0.58 (0.51-0.66)             | <0.0001 |
| Diabetes     | 1,308 (5.0)      | 115 (2.5)                                | 0.49 (0.41-0.60)     | <0.0001 | 0.64 (0.53-0.78)             | <0.0001 |
| MI           | 134 (0.5)        | <i>Suppressed due to small cell size</i> |                      |         | 0.10 (0.02-0.41)             | 0.001   |
| RA           | 79 (0.3)         | 27 (0.6)                                 | 1.97 (1.27-3.05)     | 0.0024  | 2.36 (1.51-3.68)             | 0.0002  |

<sup>^</sup>adjusted for age, region of residence, rurality, income quintile, and length of service

Supplementary Table 3. Health services use and risk ratios of health service encounters within the first five years of follow up, female vs. male (reference group) Veterans with at least one full year of follow up, by visit type

| Visit type      | N events (%)  |              | Crude RR (95% CI) | P       | aRR <sup>^</sup> (95% CI) | P       | aRR <sup>^^</sup> (95% CI) | P       |
|-----------------|---------------|--------------|-------------------|---------|---------------------------|---------|----------------------------|---------|
|                 | Males         | Females      |                   |         |                           |         |                            |         |
| Primary care    | 22,245 (85.5) | 3,968 (87.7) | 1.21 (1.10-1.33)  | <0.0001 | 1.35 (1.22-1.49)          | <0.0001 | 1.44 (1.30-1.59)           | <0.0001 |
| Specialist      | 15,536 (59.7) | 3,044 (67.3) | 1.39 (1.30-1.48)  | <0.0001 | 1.56 (1.46-1.67)          | <0.0001 | 1.64 (1.53-1.76)           | <0.0001 |
| ED visit        | 10,956 (42.1) | 1,947 (43.0) | 1.04 (0.97-1.11)  | 0.25    | 0.97 (0.90-1.03)          | 0.31    | 0.99 (0.93-1.06)           | 0.87    |
| Hospitalization | 2,445 (9.4)   | 844 (18.6)   | 2.21 (2.03-2.41)  | <0.0001 | 2.26 (2.07-2.47)          | <0.0001 | 2.52 (2.31-2.76)           | <0.0001 |
| Home care       | 747 (2.9)     | 164 (3.6)    | 1.27 (1.07-1.51)  | 0.0061  | 1.42 (1.19-1.69)          | <0.0001 | 1.48 (1.24-1.77)           | <0.0001 |

<sup>^</sup> adjusted for age, region of residence, rurality, income quintile, and length of service;

<sup>^^</sup> adjusted for age, region of residence, rurality, income quintile, length of service, and select chronic comorbidities.

Supplemental Table 4. Crude and adjusted rate ratios of health service encounters, female vs. male (reference group) Veterans with at least one full year of follow up, by visit type

| Visit type      | Median # visits (IQR) |            | Crude RR (95% CI) | <i>p</i> | aRR <sup>^</sup> (95% CI) | <i>p</i> | aRR <sup>^^</sup> (95% CI) | <i>p</i> |
|-----------------|-----------------------|------------|-------------------|----------|---------------------------|----------|----------------------------|----------|
|                 | Male                  | Female     |                   |          |                           |          |                            |          |
| Primary care    | 9 (4-16)              | 12 (6-21)  | 1.43 (1.39-1.48)  | <0.0001  | 1.47 (1.42-1.52)          | <0.0001  | 1.51 (1.46-1.56)           | <0.0001  |
| Specialist      | 4 (2-9)               | 6 (2-12)   | 1.45 (1.36-1.54)  | <0.0001  | 1.54 (1.45-1.64)          | <0.0001  | 1.56 (1.47-1.66)           | <0.0001  |
| ED              | 2 (1-3)               | 2 (1-4)    | 1.17 (1.10-1.23)  | <0.0001  | 1.11 (1.05-1.18)          | 0.0003   | 1.11 (1.05-1.18)           | 0.0003   |
| Hospitalization | 1 (1-2)               | 1 (1-2)    | 1.01 (0.95-1.07)  | 0.85     | 1.00 (0.92-1.08)          | 0.94     | 1.00 (0.92-1.09)           | 0.999    |
| Homecare visits | 9 (5-26)              | 8 (3.5-21) | 0.81 (0.43-1.50)  | 0.50     | 0.94 (0.49-1.80)          | 0.85     | 1.02 (0.54-1.96)           | 0.94     |

<sup>^</sup> adjusted for age, region of residence, rurality, income quintile, and length of service;

<sup>^^</sup>adjusted for age, region of residence, rurality, income quintile, length of service, and select chronic comorbidities.

Supplementary Table 5. Crude prevalence of chronic conditions, by sex and Veteran status

| Condition           | Veterans; N (%) |  | Ontario general population; N (%) |                |
|---------------------|-----------------|--|-----------------------------------|----------------|
|                     | Male            | Female                                   | Male                              | Female         |
| Asthma <sup>1</sup> | 1,272 (4.7)     | 305 (6.5)                                | 508,290 (11.1)                    | 614,010 (13.3) |
| COPD <sup>2</sup>   | 416 (1.5)       | 61 (1.3)                                 | 211,380 (6.9)                     | 202,190 (6.5)  |
| Hypertension        | 3,518 (13.0)    | 299 (6.4)                                | 721,170 (15.8)                    | 633,670 (13.8) |
| Diabetes            | 1,310 (4.8)     | 116 (2.5)                                | 355,440 (7.8)                     | 305,440 (6.6)  |
| MI                  | 134 (0.5)       | <i>Suppressed due to small cell size</i> | 61,630 (1.4)                      | 17,090 (0.4)   |
| RA                  | 79 (0.3)        | 27 (0.6)                                 | 23,690 (0.5)                      | 54,860 (1.1)   |

Methodology: To create a table comparing the crude prevalence of chronic conditions between Veterans and members of the Ontario general population by sex, we relied on data from the Canadian Chronic Disease Surveillance System 2018 (<https://health-infobase.canada.ca/ccdss/data-tool/>). To attempt to create a comparable general population cohort, we took the following steps:

1. For each chronic disease of interest, we restricted the data to Ontario, and selected “crude prevalence rate” as the measure.
2. We then downloaded the “detailed data” file in Excel for each chronic disease.
3. We filtered data for 2016 (the most recent year available).
4. We restricted age categories to 20-34 years, 35-49 years, and 50-64 years, to approximate the age distribution of the Veteran cohort. Exception: data provided for COPD and RA used slightly different age categories (COPD: 35-49 and 50 to 64 years; RA: 16-34, 35-49, and 50-64 years).
5. We combined the number of cases in each age category of interest to obtain the numerator (N), and the total number of individuals in each age category of interest to obtain the denominator. The crude prevalence (N cases in time period/total study population) was estimated using these data. This step was taken separately for men and women.