Supplemental Online Content

Rhodes E, Kendall C, Talarico R, et al. Primary care physician use and frequency of visits among physicians in Ontario, Canada. *JAMA Netw Open*. 2022;5(8):e2227662. doi:10.1001/jamanetworkopen.2022.27662

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This supplemental material has been provided by the authors to give readers additional information about their work.
**eTable 1. Administrative Health Databases Housed at ICES**

| Database | Description | Variables |
|----------|-------------|-----------|
| College of Physicians and Surgeons of Ontario (CPSO) | Regulatory college for the medical profession. Physicians must register and renew their membership yearly to practice in Ontario. | - Specialty  
- Medical school  
- Level of training  
- License restrictions |
| Discharge Abstract Database (DAD) | Administrative, clinical, and demographic data on all hospital discharges in Ontario. | - Deliberate self-harm  
- Mental health conditions |
| ICES Physicians Database (IPDB) | Comprises information from the Ontario Health Insurance Plan (OHIP), Corporate Provider Database (CPDB), the Ontario Physician Human Resource Data Centre (OPHRDC) database, and the OHIP database of physician billings. The CPDB contains information on physician demographics, specialty training and practice location. The data in the CPDB is validated against the OPHRDC database, which verifies physician specialty and practice location information through periodic telephone interviews with physicians. | - Specialty |
| Ontario Health Insurance Plan (OHIP) Claims Database | Physician billings: Claims for physicians in Ontario – includes claims in both inpatient and outpatient settings.  
Non-physician billings: Health professionals for provincial insured services, such as select midwives, oral surgeons, chiropractors, optometrists, and physiotherapists. Some care may occur for inpatients. | - Mental health conditions |
| Source                        | Description                                                                                                                                                                                                 | Characteristics                                      |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| Laboratory: Outpatient        | Laboratory services. Does not include laboratory services for inpatients.                                                                                                                                   |                                                    |
| ORGD vital statistics         | Obtains information about mortality from death certificates which are completed by physicians. All deaths within Ontario are registered in the office of the division registrar within which the death occurs. | Completed suicide                                   |
| Registered Persons Database   | Data on individuals registered under OHIP and who are eligible for the Ontario Drug Program.                                                                                                                 | Age, Sex                                            |
### Table 2. Study Cohort Creation

| Description                                                                 | Count     |
|----------------------------------------------------------------------------|-----------|
| Number of Physician Records in CPSO from 1990 to 2018                       | 55,537    |
| Number of Physician Records with valid unique identified from 1990 to 2018 | 46,623    |
| Number of Physicians (keeping first registration date) from 1990 to 2018   | 45,835    |
| Number of Physicians alive and eligible March 31 2018                      | 24,952    |
| Number of Physicians who billed on 10% of days between April 1 20017 to March 31 2018 | 19,629    |
| Number of Physicians with non-missing LHIN, income quintile and >=25 on March 31 2018 | 19,581    |
| Final Cohort Physician Age, sex, income quintile and LHIN matched to non-phys. 1:5 on March 31 2018 | 97,905+    |
**eTable 3. Virtual Rostering Algorithm**

| **Variable**      | **Definition**                                                                                                                                                                                                 |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Virtual rostering | For patients that were not in CAPE a virtual rostering methodology was applied  
|                   | a. All visits to specialist were obtained = 00, 05, 26 for the 2-year period preceding the index date for the following fee codes - A001, A003, A007, A903, E075, G212, G271, G372, G373, G365, G538, G539, G590, G591, K005, K013, K017, P004, A261, K267, K269 – core Primary Care codes  
|                   | b. Cost of services (cost × number of service) was derived by linking to standard pricing file  
|                   | c. For each patient the highest billing physician was selected |
**eTable 4.** Local Health Integration Networks (LHINs) by Physicians and a Matched (5 to 1) Sample From the General Population

| Baseline Characteristics | Physicians N= 19,581 | General Population* N= 97,905 |
|--------------------------|----------------------|--------------------------------|
| LHIN1                    | 577 (2.9%)           | 2,885 (2.9%)                   |
| LHIN2                    | 1,507 (7.7%)         | 7,535 (7.7%)                   |
| LHIN3                    | 802 (4.1%)           | 4,010 (4.1%)                   |
| LHIN4                    | 1,964 (10.0%)        | 9,820 (10.0%)                  |
| LHIN5                    | 396 (2.0%)           | 1,980 (2.0%)                   |
| LHIN6                    | 1,850 (9.4%)         | 9,250 (9.4%)                   |
| LHIN7                    | 4,366 (22.3%)        | 21,830 (22.3%)                 |
| LHIN8                    | 2,606 (13.3%)        | 13,030 (13.3%)                 |
| LHIN9                    | 877 (4.5%)           | 4,385 (4.5%)                   |
| LHIN10                   | 798 (4.1%)           | 3,990 (4.1%)                   |
| LHIN11                   | 2,335 (11.9%)        | 11,675 (11.9%)                 |
| LHIN12                   | 519 (2.7%)           | 2,595 (2.7%)                   |
| LHIN13                   | 663 (3.4%)           | 3,315 (3.4%)                   |
| LHIN14                   | 321 (1.6%)           | 1,605 (1.6%)                   |

* Matched 1:5 based on age, sex, income quintile and LHIN; % percentage, SD standard deviation
**eTable 5. Baseline Characteristics for Total Physicians, by Physician Specialty, and a Matched (5 to 1) Sample From the General Population**

| Baseline Characteristics | Total Physicians N=19,581 | Family Medicine N=4,672 | Surgery N=2,697 | Psychiatry N=1,170 | Anaesthesia N=962 | Radiology N=681 | Other N=340 | General population N=97,905 |
|--------------------------|---------------------------|------------------------|----------------|----------------|----------------|----------------|-------------|---------------------------|
| Age at index Mean (SD)   | 43.99 (8.94)              | 43.39 (8.18)           | 44.37 (8.18)   | 46.78 (9.72)   | 45.19 (7.89)   | 44.90 (7.54)   | 47.09 (8.18) | 43.99 (8.94)               |
| Sex N (%)                |                           |                        |                |                |                |                |             |                           |
| Female                   | 9,171 (46.8)              | 4,856 (53.6)           | 2,161 (46.3)   | 902 (33.4)     | 331 (34.4)     | 235 (34.5)     | 113 (33.2)  | 45,855 (46.8)              |
| Male                     | 10,410 (53.2)             | 4,203 (46.4)           | 2,511 (53.7)   | 1,795 (66.6)   | 631 (65.6)     | 446 (65.5)     | 227 (66.8)  | 52,050 (53.2)              |
| Income Quintile N (%)    |                           |                        |                |                |                |                |             |                           |
| 1                        | 1,199 (6.1)               | 598 (6.6)              | 281 (6.0)      | 150 (5.6)      | 81 (6.9)       | 37 (3.8)       | 29 (4.3)    | 23 (6.8)                  |
| 2                        | 1,864 (9.5)               | 937 (10.3)             | 427 (9.1)      | 232 (8.6)      | 113 (9.7)      | 80 (8.3%)     | 40 (5.9)    | 35 (10.3)                 |
| 3                        | 2,429 (12.4)              | 1,254 (13.8)           | 536 (11.5)     | 284 (10.5)     | 155 (13.2)     | 115 (12.0)     | 54 (7.9)    | 31 (9.1)                  |
| 4                        | 3,618 (18.5)              | 1,902 (21.0)           | 797 (17.1)     | 431 (16.0)     | 214 (18.3)     | 141 (14.7)     | 91 (13.4)  | 42 (12.4)                 |
| 5                        | 10,471 (53.5)             | 4,368 (48.2)           | 2,631 (56.3)   | 1,600 (59.3)   | 607 (51.9)     | 589 (61.2)     | 467 (68.6) | 209 (61.5)                |
| Rural                    | 906 (4.6)                 | 700 (7.7)              | 64 (1.4)       | 97 (3.6)       | 17 (1.5)       | 13 (1.4)       | 14 (2.1)    | <6 (9.2)                  |
| Mental Health Visits N (%)| 3,124 (16.0)              | 1,564 (17.3)           | 677 (14.5)     | 288 (10.7)     | 333 (28.5)     | 130 (13.5)     | 89 (13.1)  | 43 (12.6)                 |
| Comorbidities N (%)      |                           |                        |                |                |                |                |             |                           |
| Hypertension             | 1,634 (8.3)               | 718 (7.9)              | 349 (7.5)      | 228 (8.5)      | 151 (12.9)     | 94 (9.8)       | 51 (7.5)    | 43 (12.6)                 |
| Heart failure            | 45 (0.2)                  | 23 (0.3)               | 7 (0.1)        | 7 (0.3)        | 6 <6           | <6 <6          | <6 <6       | 371 (0.4)                 |
| MI                       | 48 (0.2)                  | 18 (0.2)               | 7 (0.1)        | 11 (0.4)       | 7 <6           | <6 <6          | <6 <6       | 545 (0.6)                 |
| COPD                     | 122 (0.6)                 | 53 (0.6)               | 29 (0.6)       | 16 (0.6)       | 13 (1.1)       | <6             | 7 (1.0)    | <6 (3.3)                  |
| Asthma                   | 1,840 (9.4)               | 936 (10.3)             | 440 (9.4)      | 222 (8.2)      | 108 (9.2)      | 65 (6.8)       | 55 (8.1)    | 14 (4.1)                  |
| Diabetes                 | 681 (3.5)                 | 328 (3.6)              | 147 (3.1)      | 80 (3.0)       | 77 (6.6)       | 22 (2.3)       | 11 (1.6)    | 16 (4.7)                  |

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Matched 1:5 based on age, sex, income quintile and local health integration network (LHIN); % percentage, SD standard deviation, MI myocardial infarction, COPD chronic obstructive pulmonary disorder.
Cell sizes <6 were suppressed as per ICES policy to prevent reidentification.