**SUPPLEMENTAL MATERIALS**

**Supplemental Table 1.** Results of log-binomial generalized estimating equation (GEE) model for unmet health care needs among Canadians (N = 273,211)

|  |  |  |
| --- | --- | --- |
| **Characteristics** | Adjusted Risk ratio  (95% CI)\* | P value |
| Stroke | 1.27 (1.22 to 1.32) | <0.001 |
| Female (vs. male) | 1.06 (1.03 to 1.09) | <0.001 |
| Immigrant (vs. non-immigrant) | 1.11 (1.05 to 1.18) | <0.001 |
| Ethnic minority (vs. not) | 1.02 (0.97 to 1.08) | 0.43 |
| Age groups (60 to 69 years as reference) |  |  |
| 40 to 49 years | 1.00 (0.97 to 1.03) | 0.92 |
| 50 to 59 years | 1.02 (1.00 to 1.04) | 0.14 |
| 70 to 79 years | 1.05 (1.01 to 1.08) | 0.013 |
| Over 80 years | 1.10 (1.03 to 1.18) | 0.007 |
| Marital status (married or common-law as reference) |  |  |
| Single | 1.05 (1.01 to 1.09) | 0.012 |
| Separated or widowed | 1.07 (1.04 to 1.11) | <0.001 |
| Personal annual income in CAD (> 80,000 as reference) |  |  |
| No income | 0.98 (0.91 to 1.05) | 0.55 |
| < 20,000 | 1.09 (1.05 to 1.13) | <0.001 |
| 20-39,999 | 1.04 (1.01 to 1.08) | 0.025 |
| 40-59,999 | 0.97 (0.93 to 1.01) | 0.12 |
| 60-79,999 | 0.90 (0.85 to 0.96) | 0.001 |
| Education level (postgraduate training as reference) |  |  |
| Less than grade 12 | 0.89 (0.86 to 0.92) | <0.001 |
| Greater than grade 12 | 0.87 (0.85 to 0.89) | <0.001 |
| Lifestyle factors |  |  |
| Ever smoker (vs. never smoker) | 0.98 (0.96 to 1.01) | 0.12 |
| Current drinker (vs. not) | 0.93 (0.90 to 0.95) | <0.001 |
| Comorbid conditions |  |  |
| Hypertension | 1.01 (0.99 to 1.04) | 0.39 |
| Diabetes mellitus | 1.01 (0.97 to 1.05) | 0.60 |
| Heart disease | 1.56 (1.52 to 1.60) | <0.001 |
| Self-rated health (excellent as reference) |  |  |
| Poor | 5.76 (5.55 to 5.97) | <0.001 |
| Fair | 3.78 (3.64 to 3.93) | <0.001 |
| Good | 2.31 (2.26 to 2.35) | <0.001 |
| Very good | 1.46 (1.40 to 1.52) | <0.001 |

Quasi-likelihood under the independence model criterion (QIC) = 167816.3;

\*adjusted for province of residence

**Supplemental Table 2**. Results of difference in differences analyses using adjusted log-binomial generalized estimating equation models for unmet health care needs among Canadian stroke survivors between 2001 and 2014 using combined information from the CCHS cross-sectional surveys, accounting for clustering in provinces.

|  |  |  |
| --- | --- | --- |
| **Variable of interest** | **Adjusted *β* estimates\* (95% CI)** | ***P* value** |
| **All survey participants (N = 273,211)** | | |
| Intervention\*time\*stroke *(DiD estimate)* | 0.07 (-0.22 to 0.35) | **0.63** |
| Stroke | 0.42 (0.34 to 0.50) | <0.001 |
| Intervention | -0.15 (-0.20 to -0.10) | <0.001 |
| Time | -0.20 (-0.38 to -0.02) | 0.027 |
| Stroke\*intervention | -0.04 (-0.12 to 0.04) | 0.34 |
| Stroke\*time | -0.69 (-0.96 to -0.42) | <0.001 |
| Intervention\*time | 0.28 (0.08 to 0.48) | 0.01 |
| **Stroke survivors only (N = 5,976)** | | |
| Intervention\*time *(DiD estimate)* | 0.33 (0.04 to 0.62) | **0.024** |
| Time | -0.92 (-1.20 to -0.64) | <0.001 |
| Intervention | -0.26 (-0.31 to -0.22) | <0.001 |

\*adjusted for age categories, sex, immigration status, ethnic minority status, smoking status, alcohol, and medical co-morbidities – hypertension, diabetes, heart disease, province of residence, and using robust errors that accounted for clustering across provinces.

*Intervention* here is binary variable to determine whether the respondent lives in province that implemented integrated stroke systems or not.

*Time* here is a binary variable to determine whether the information from the individual was obtained before or after implementation of the integrated stroke systems.