Appendix

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e-table 1. Definitions of variables included in the study.

Variable	Definition
Incident ischemic stroke	Hospitalized or non-hospitalized (seen in the emergency department but not admitted) adult patients with confirmed acute ischemic stroke between April 1, 2002 and March 31, 2013 seen at all 150 acute care institutions in the province. Participating hospitals included comprehensive stroke centres and non-stroke centres. Information gathered using chart abstractors with neurological expertise, with the final diagnosis and other data elements obtained through review of clinical and neuroimaging data.
Incident primary cancer	A diagnosis of cancer either in hospitalized or non-hospitalized adult patients obtained from 4 different sources: hospital or ER visit using appropriate ICD codes, pathology reports with a diagnosis of cancer, regional cancer centres where patients with cancer are seen, and death certificates.
Incident schizophrenia	A primary diagnosis of schizophrenia or schizoaffective disorder from a general hospital bed (prior to 2002, ICD9 - 295; as of 2002 ICD10 - F20 or F25) **OR** primary diagnosis of schizophrenia from a psychiatric hospital bed (DSM-IV – 295.x) **OR** three outpatient visits with a diagnosis of schizophrenia (295 or F20/F25) from outpatient physician billings within a 3-year period. 93.1% Sensitivity - 58.7% Specificity

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Hypertension	≥ 1 Hospitalization [add diagnostic codes to be consistent with DM section? Same for other variables.] **OR** ≥ 2 physician claims in a two-year period **OR** 1 physician claim followed by another physician claim or hospitalization within two years. 72% Sensitivity - 95% Specificity - 87% PPV - 88% NPV
Diabetes	≥ 3 physician claims for diagnostic code (250) in a one-year period 79.9% Sensitivity - 99.1% Specificity - 91.4% PPV
CHF (congestive heart failure)	≥ 1 Hospitalization **OR** 1 physician claim in ER or clinic, followed by ≥ 1 Hospitalization, ER visit, or physician claim within one year. 84.8% Sensitivity - 97.0% Specificity - 55.6% PPV
Atrial fibrillation	1 hospitalization or 1 emergency room visit, ICD-10 (2002 onwards) – I48; ICD-9 (pre-2002) – 427.31 or 427.32 **OR** Technical billing code for cardioversion billing code Z437
COPD (chronic obstructive pulmonary disease)	≥1 Hospitalization for COPD OR ≥ 3 physician claims in a two-year period 57.5% Sensitivity - 95.4% Specificity

e-table 2. Administrative databases used to determine date of last health system contact and statistics on contact with health care system in Ontario.

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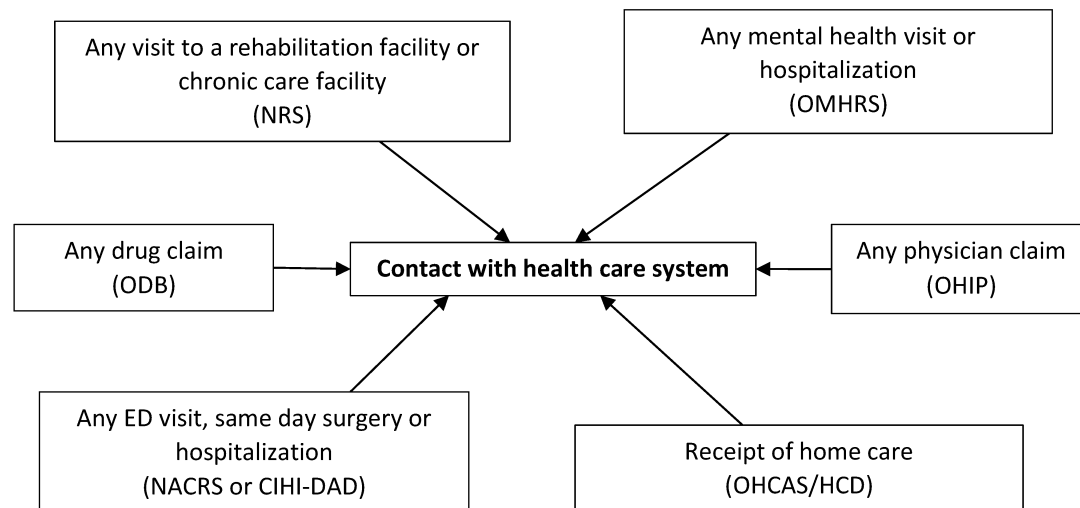
Abbreviations:

NRS – National Rehabilitation Reporting System; ODB – Ontario Drug Benefit; NACRS – National Ambulatory Care Reporting System; CIHI-DAD – Canadian Institute for Health Information-Discharge Abstract Database; OHCAS – Ontario Home Care Administration System; HCD – Home Care Database; OHIP – Ontario Health Insurance Plan Claims Database; OMHRS – Ontario Mental Health Reporting System. ED – Emergency Department
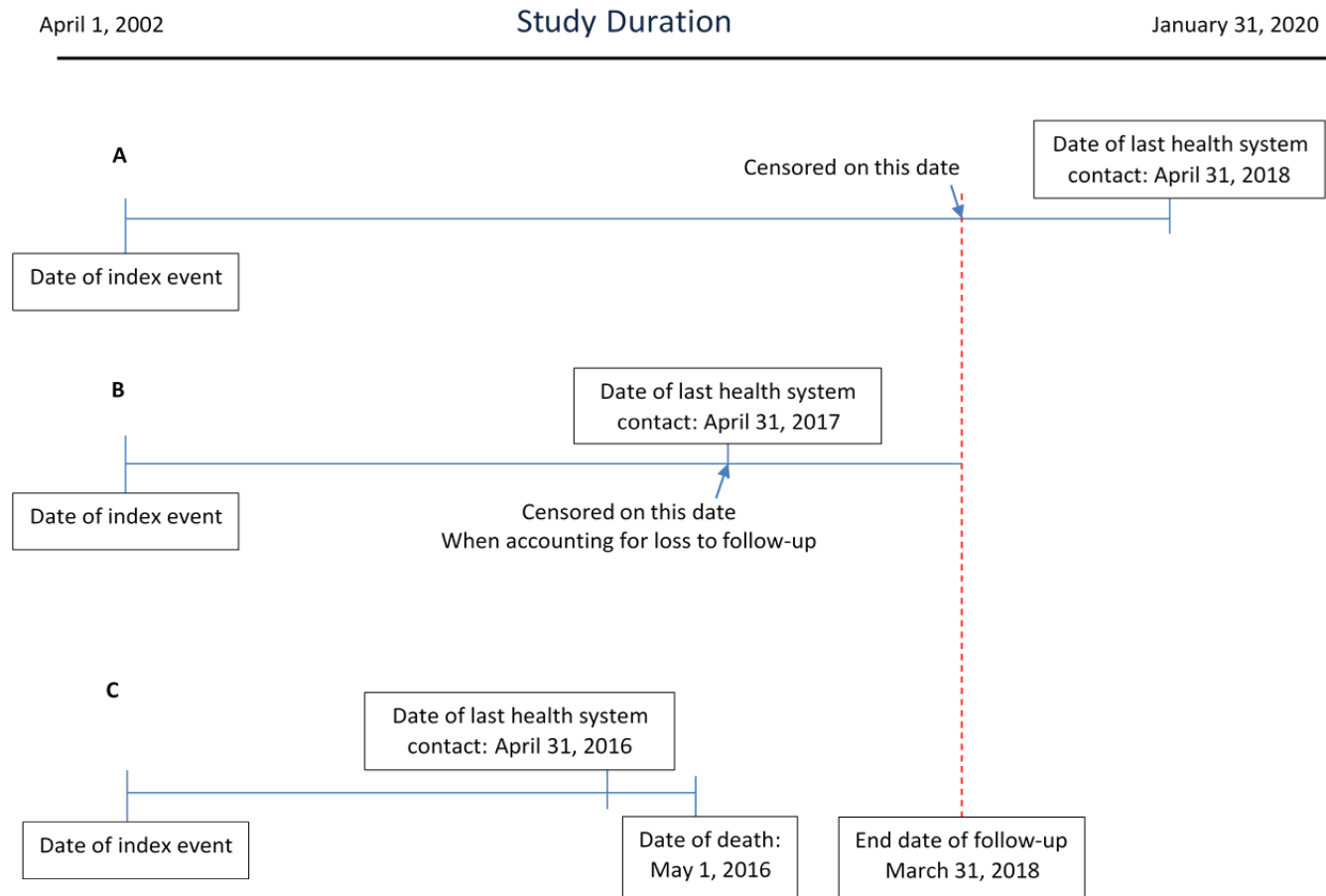
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e-table 3. Characteristics of immigrants included in the study.

Immigration-specific characteristics	Ischemic stroke n = 2078	Cancer n = 26,084	Schizophrenia n = 9525
World region of origin			
Africa	81 (3.9)	1128 (4.3)	980 (10.3)
Caribbean	193 (9.3)	1902 (7.3)	967 (10.2)
East Asia	403 (19.4)	5331 (20.4)	1319 (13.8)
Latin America	171 (8.2)	1736 (6.7)	738 (7.7)
Middle East	194 (9.3)	2701 (10.4)	947 (9.9)
South Asia	392 (18.9)	4094 (15.7)	2271 (23.8)
Western	526 (25.3)	7525 (28.8)	1895 (19.9)
Missing	392 (18.9)	1667 (6.4)	408 (4.3)
Time since arrival			
≤ 10 years	677 (32.6)	10360 (39.7)	4763 (50.0)
> 10 years	1401 (67.4)	15724 (60.3)	4762 (50.0)
Immigration class			
Economic	468 (22.5)	9262 (35.5)	3213 (33.7)
Family or other	1273 (61.3)	13233 (50.7)	3891 (37.8)
Refugee	337 (16.2)	3589 (13.8)	2421 (25.4)

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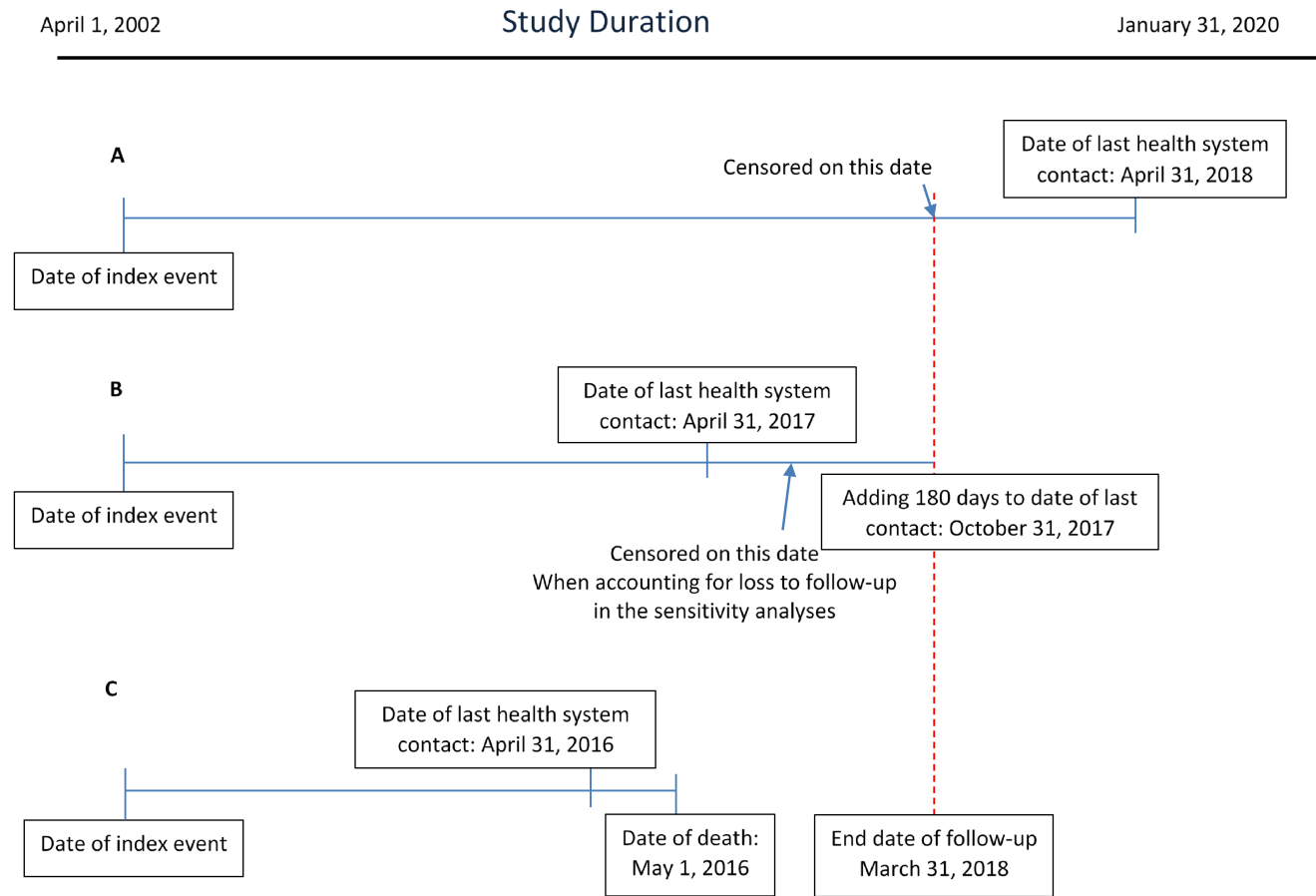
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e-table 4. Results of sensitivity analyses using a lag-time of 6 months when determining the date of last health system contact.

		Ischemic stroke	Cancer	Schizophrenia
Immigrants	Lost to follow-up, n (%)	145 (7.0)	1895 (7.3)	1120 (11.8)
Long-term residents		472 (2.1)	5472 (1.9)	3333 (7.4)
Immigrants	Death, n (%)	796 (35.4)	9014 (34.6)	546 (5.7)
Long-term residents		12,575 (55.9)	146,723 (51.6)	6647 (14.7)
Adjusted HR of death (95% CI)^	Immigrants vs. long-term residents	0.82 (0.77-0.89)	0.77 (0.76-0.79)	0.56 (0.51-0.61)

^Accounting for loss of follow-up by censoring those lost to follow-up.

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