

Appendix II: ICES databases descriptions and use in study

ICES Databases	Description	Use in study
Continuing Care Reporting System (CCRS)	The CCRS is a database with demographic, clinical, functional and resource utilization information on individuals receiving continuing care services in hospitals or long-term care homes in Ontario, Canada.	Place of death
Discharge Abstract Database (DAD)	The DAD includes information on all hospitalizations based on a retrospective chart review including International Classification of Diseases-10 (ICD-10) diagnoses codes (up to 16 diagnoses codes for each discharge record), procedures performed during hospitalization, physician providing care, hospital administrative information, and patients' demographic information.	Opioid related hospitalization (exposure), hospitalizations (outcomes), and previous hospitalization diagnosis codes for chronic conditions, place of death
Drug and Drug/Alcohol Related Death (DDARD)	The DDARD is a database of information from chart abstraction of coronial investigations and includes details on manner of death (accidental, suicide, undetermined) and drug concentrations from postmortem toxicology	Opioid toxicity deaths
Drug Identification Number (DIN) database	The DIN provides information on drugs administered in Ontario for controlled substances and for patients eligible for publicly covered benefits.	Opioids and equivalencies
Ontario HIV Database (HIV)	HIV is an administrative registry of individuals with diagnosed HIV (sensitivity and specificity of 96.2% and 99.6%, respectively).	Identifying proportion of HIV-positive cases
Homecare Database (HCD)	The HCD holds clinical, information on assessments, admission to programs and service records of care delivered at home.	Palliative care delivered at home
The Immigrant, Refugees and Citizenship Canada (IRCC)	IRCC includes immigration application records for individuals who originally landed in Ontario, Canada dating back to January 1985. The main variables in this dataset include country of citizenship, level of education, mother tongue, and landing date. New immigrants who landed in Ontario and immediately moved to another province or those who moved from another province may be missed in this data.	Identified immigrants

ICES Databases	Description	Use in study
Local Health Integration Network (LHIN) data	The LHIN provides health service availability and the geographic bounds of the designated LHINs in Ontario.	Geographic distribution
National Ambulatory Care Reporting System (NACRS)	The NACRS holds data on visits to healthcare institutions. This includes demographics, the setting visited (e.g. day surgery, emergency department, cancer care unit), and clinical data (e.g. diagnosis, treatment).	Exposure – Opioid-related emergency department visits, subsequent emergency department visits, including palliative care (outcomes), place of death
Narcotic Monitoring System (NMS)	The NMS database stores dispensing information about all monitored drugs since 2012, submitted to the Ontario Ministry of Health by pharmacies.	Exposure – Opioid Agonist Treatment (OAT), opioid prescriptions, and controlled opioid equivalents
National Rehabilitation Reporting System (NRS)	The NRS holds data from participating adult inpatient rehabilitation facilities and programs	Place of death
Ontario Health Insurance Plan (OHIP) Claims Database	The OHIP database holds all billing claims paid for by the Ontario Health Insurance Plan. Each record represents the delivery of a service from a particular physician to a particular patient and includes the date, the fee paid, and the number of times it was billed.	Palliative care billings (primary outcome)
Ontario Drug Benefits (ODB)	The ODB provides information on drugs administered in Ontario to patients eligible for publicly covered benefits (those <25 or >65 years of age or eligible for disability)	Chronic conditions - multimorbidity score
Ontario Marginalization Index (ONMARG)	ON-Marg is a data tool that combines a wide range of demographic indicators into four distinct dimensions of marginalization, including economic, ethno-racial, age-based and social marginalization.	Descriptive statistics
Vital Statistics - Ontario Registry of Deaths (ORGD)	The ORGD contains information about mortality from death certificates which are completed by physicians.	Cause of death using ICD-9 and 10 codes

ICES Databases	Description	Use in study
Statistics Canada's Postal Code Conversion File Plus (PCCF+)	This is an ICES derived macro designed to link PCCF files to other census geographic identifiers and was used to create urban/rural flags, neighbourhood income quintiles, dissemination area/enumeration area, census division, and latitude/longitude. This macro is updated according to changes in census data from which it is derived.	Converts postal code from the RPDB to determine: Rurality, Income quintile, Census division, LHIN
Registered Persons Database (RPDB)	The RPDB holds information on each individual who has ever had an active Ontario health card number. This data was provided by the Ministry of Health and Long-Term Care (MOHLTC). The most relevant information in this dataset are demographic information, geographic information, and eligibility of OHIP coverage.	Residents' age, sex, postal code, death information (if applicable)