

Indicator: Alcohol-Attributable Hospitalization

Data Years: 2007 to 2012

Indicator Description: Age-standardized rate of hospitalization for alcohol-attributable conditions for patients age 15 and older (per 100,000). The Alcohol-Attributable Hospitalization indicator captures inpatient treatment at general hospitals for chronic diseases or conditions that have been classified as entirely attributable to alcohol,¹ excluding alcohol-related injuries (including motor vehicle-related injuries) and suicides. Using this definition, mental and behavioural disorders (e.g., acute intoxication, withdrawal, dependence syndrome) are the most common reason Canadians require hospitalization for an alcohol-attributable disease or condition, making up approximately 60% of all alcohol-attributable hospitalizations between 2007 and 2012. This is followed by acute pancreatitis and liver cirrhosis, each making up approximately 11% of all alcohol-attributable hospitalizations.

Rationale: There is a well-established and growing body of evidence demonstrating that certain patterns of alcohol consumption cause or contribute to the development of many health conditions and diseases.²⁻⁴ Research has linked alcohol consumption to more than 60 disease conditions.⁵ However, it is important to note that this Alcohol-Attributable Hospitalization indicator is restricted to conditions where alcohol is defined as the necessary cause (i.e., 100% attributable to alcohol).

Data Sources: Discharge Abstract Database (DAD), Hospital Morbidity Database (HMDB) and Ontario Mental Health Reporting System (OMHRS), Canadian Institute for Health Information

Income Disaggregator: Neighbourhood-level income from the Postal Code Conversion File Plus, Statistics Canada

Denominator Description: Total population age 15 and older based on the 2001 and 2006 census counts, with linear-based extrapolation to derive population estimates for between-census years, as well as for 2011 and 2012ⁱ

Numerator Description: Total number of separations from acute care hospitals (including discharges, deaths, sign-outs and transfers) with a condition classified as 100% attributable to alcohol

Inclusions:

1. Age at admission 15 and older
2. Admission to an acute care institution

Exclusions:

1. Stillborn or cadaveric donor records
2. Records where the sex is not recorded as male or female
3. Records with invalid postal code or unassigned income information

i. Population counts are available upon request (cphi@cihi.ca).

Method of Age-Standardization: Direct age-standardization to the Canada 2011 standard population

Age Groupings for Standardization: 15–19; 20–24; 25–29; 30–34; 35–39; 40–44; 45–49; 50–54; 55–59; 60–64; 65–69; 70–74; 75–79; 80–84; 85–89; 90+

Geographic Assignment: Patient’s province of residence according to postal code in the database

Geographic Coverage: All provinces and territories

Note: Due to inconsistencies in data availability for Ontario, the date range was restricted to 2007 onward

Interpretation: Lower rates are desirable.

Case Selection Criteria: Alcohol-attributable conditions coded as the most responsible diagnosis or main condition

Table 1: Disease Conditions That Are by Definition Alcohol Attributable¹

Description	ICD-10 Codes
Mental and Behavioural Disorders Due to Use of Alcohol	F10
Degeneration of Nervous System Due to Alcohol	G31.2
Alcoholic Polyneuropathy	G62.1
Alcoholic Myopathy	G72.1
Alcoholic Cardiomyopathy	I42.6
Alcoholic Gastritis	K29.2
Alcoholic Liver Disease	K70
Alcohol-Induced Acute Pancreatitis	K85.2
Alcohol-Induced Chronic Pancreatitis	K86.0
Fetus and Newborn Affected by Maternal Use of Alcohol	P04.3
Fetal Alcohol Syndrome (Dysmorphic)	Q86.0

Table 2: Disease Conditions That Are by Definition Alcohol Attributable for Use With OMHRS

Description	DSM-IV Codes
Alcohol Intoxication Delirium	291.0
Alcohol Withdrawal Delirium	
Alcohol Persisting Amnestic Disorder	291.1
Alcohol Persisting Dementia	291.2
Alcohol-Induced Psychotic Disorder, With Hallucinations	291.3
Alcohol-Induced Psychotic Disorder, With Delusions	291.5

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Table 2: Disease Conditions That Are by Definition Alcohol Attributable for Use With OMHRS (cont'd)

Description	DSM-IV Codes
Alcohol Withdrawal	291.81
Alcohol-Induced Sleep Disorder	291.82
Alcohol-Induced Mood Disorder	291.89
Alcohol-Induced Anxiety Disorder	
Alcohol-Induced Sexual Dysfunction	
Alcohol-Related Disorder Not Otherwise Specified	291.9
Alcohol Intoxication	303.00
Alcohol Dependence	303.90
Alcohol Abuse	305.00

Percentage Missing Due to Income:

	2007	2008	2009	2010	2011	2012
Percentage Missing*	0.2	0.2	0.5	0.3	0.2	0.2

Note

* Percentage missing refers to the proportion of hospital separation records for this indicator that are missing or have invalid postal code information for patient's place of residence and are therefore excluded from analyses based on neighbourhood-level income quintiles.

Data Source Description:

Discharge Abstract Database: The DAD is a national-level database that captures administrative and clinical information from inpatient separation records (discharges, deaths, sign-outs and transfers) from acute care hospitals within a fiscal year (April 1 to March 31) from all provinces and territories in Canada, with the exception of Quebec. Selected day surgery, rehabilitation, psychiatric, long-term care and other data is also captured in the DAD.⁶

Hospital Morbidity Database: The HMDB captures administrative, clinical and demographic information on inpatient separation records from acute care hospitals across Canada (including Quebec). Data sources include the DAD and the ministère de la Santé et des Services sociaux du Québec.⁷

Ontario Mental Health Reporting System: OMHRS captures administrative and clinical information on individuals admitted to designated adult mental health beds in Ontario. Data is collected on clients from 68 participating hospitals in Ontario using the Resident Assessment Instrument–Mental Health (RAI-MH). The database includes information about mental and physical health, social support and service use. Data is collected at admission, at discharge and every 3 months for patients with extended stays.⁸

References

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3. Rehm J, Baliunas D, Borges GLG, et al. The relation between different dimensions of alcohol consumption and burden of disease: an overview. *Addiction.* 2010;105(5):817-843. doi:10.1111/j.1360-0443.2010.02899.x.
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6. Canadian Institute for Health Information. Discharge Abstract Database (DAD) metadata. http://www.cihi.ca/CIHI-ext-portal/internet/en/document/types+of+care/hospital+care/acute+care/dad_metadata. Updated 2014. Accessed February 2, 2015.
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8. Canadian Institute for Health Information. Ontario Mental Health Reporting System (OMHRS) metadata. http://www.cihi.ca/cihi-ext-portal/internet/en/document/types+of+care/specialized+services/mental+health+and+addictions/omhrs_metadata. Updated 2014. Accessed February 2, 2015.