

**Appendix 3 (as supplied by authors): Description of clinical characteristics**

**Table S2. HCV-related treatment regimens and their associated identification numbers searched in the Ontario Drug Benefit database.**

Treatment	Drug Identification Numbers
Direct Acting Antivirals	02370816, 02371448, 02371456, 02371464, 02371472, 02371553, 02416441, 02418355, 02432226, 02436027, 02444747, 02444755, 02447711, 02451131, 02452294, 02456370, 02467542, 02467550
Interferon	02223406, 02238674, 02238675, 02240693, 02240694, 02240695
Interferon-Ribavirin Combination	02239730, 02241159
Peginterferon	02242966, 02242967, 02242968, 02242969
Peginterferon-Ribavirin Combination	02246026, 02246027, 02246028, 02246029, 02246030, 02248077, 02248078, 02253410, 02253429, 02254581, 02254603, 02254638, 02254646

Notes: Claims for any interferon, interferon-ribavirin combinations, peginterferon, and peginterferon-ribavirin combinations were combined into the interferon treatment regimen category in Appendix 6 Table S10.

**Table S3. Codes used to identify records of mental health and addiction disorders.**

Diagnostic Group*	ICD-9 codes (Used to search OMHRS)	ICD-10 Codes (Used to search CIHI-DAD and CIHI-NACRS)	OHIP Diagnostic Code
Substance-related and addiction disorders	291.x, 292.x, 303.x, 304.x, 305.x, Provisional=16	F55, F10 to F19	303, 304
Mood disorder	293.83, 296.x, 300.4x, 301.13, 311.x, 625.4, Provisional=3, 4	F06.3, F30.x to F34.x, F38.x, F39.x, F53.0	296, 311
Personality disorder	301, 301.0x, 301.2x, 301.4x, 301.5x, 301.6x, 301.7x, 301.81 to 301.83, 301.89, 301.9x, 310.1, Provisional=18	F07.x, F21, F60, F61, F62, F68, F69	301
Schizophrenia spectrum and other psychotic disorders	293.81, 293.82, 295.x, 297.x, 298.x, Provisional=2	F06.0 to F06.2, F20, F22 to F29, F53.1	295, 297, 298
Anxiety disorders	293.84, 300, 300.0x, 300.2x, 309.21, 313.23, Provisional=5	F06.4, F40, F41, F93.0 to F93.2, F94.0	300
Trauma/Stressor-related disorders	308.3x, 309, 309.0x, 309.24, 309.28, 309.3x, 309.4x, 309.81, 309.89, 309.9x, 313.89, Provisional=7	F43.x, F94.1, F94.2	309
Deliberate self harm	-	X60 to X84, Y10 to Y19, Y28*	-

Notes: x represents all subcategories within the respective diagnosis code. Provisional represents broader provisional diagnoses categories found in OMHRS based on DSM-IV and DSM-V codes. Diagnostic group codes (with the exception of alcohol use disorder) were adapted from the Ontario Mental Health

and Addiction Scorecard (<https://www.ices.on.ca/Publications/Atlases-and-Reports/2018/MHASEF>). OMHRS, DAD and NACRS diagnostic category data did not start until 2002.

\*When primary diagnostic code was not F06 to F99

Abbreviations: CIHI, Canadian Institute for Health Information; DAD, Discharge Abstract Database; DSM, Diagnostic and Statistical Manual of Mental Disorders; ICD, International Classification of Diseases; NACRS, National Ambulatory Care Reporting System; OHIP, Ontario Health Insurance Plan; OMHRS, Ontario Mental Health Reporting System.

**Table S4. Codes used to identify records of HIV and/or HBV.**

Flag	Database Searched	Codes Searched
HIV	Ontario HIV Database	Any record
	CIHI-DAD, CIHI-SDS, and CIHI-NACRS	ICD-9 diagnostic codes starting with: 042, 043, 044 ICD-10 diagnostic codes starting with: B20, B21, B22, B23, B24
HBV	CIHI-DAD, CIHI-SDS, and CIHI-NACRS	ICD-9 diagnostic codes: 070.2, 070.3 ICD-10 diagnostic codes: B16.0, B16.1, B16.2, B16.9, B17.0, B18.0, B18.1, Z22.50
	PHO Laboratory Testing Records	Any positive HBV antibody or confirmatory test

Abbreviations: CIHI, Canadian Institute for Health Information; DAD, Discharge Abstract Database; HIV, human immunodeficiency virus; HBV, hepatitis B virus; ICD, International Classification of Diseases; PHO, Public Health Ontario; NACRS, National Ambulatory Care Reporting System; SDS, same day surgery database.

**Table S5. Codes used to identify cases of cirrhosis.**

Databases Searched	Codes Searched
OHIP*	Diagnostic code: 571
CIHI-DAD, CIHI-SDS, and CIHI-NACRS	ICD-9 diagnostic codes: 571.2, 571.5, 456.1 ICD-10 diagnostic codes: K70.3, K74.6, K71.7, I85.9, I98.2

Notes: The algorithm consisted of either matching the algorithm for decompensated cirrhosis (Appendix 2 Table S6) and/or having any diagnosis code for cirrhosis.

\*Used for decompensated cirrhosis algorithm (Appendix 2 Table S6)

Abbreviations: CIHI, Canadian Institute for Health Information; DAD, Discharge Abstract Database; ICD, International Classification of Diseases; NACRS, National Ambulatory Care Reporting System; SDS, same day surgery database.

**Table S6. Codes used to identify cases of decompensated cirrhosis.**

Databases Searched	Codes Searched
OHIP	Procedure billing codes: J057, Z591
CIHI-DAD, CIHI-SDS, and CIHI-NACRS	CCP codes: 1006, 6691 CCI codes: 1NA13BAFA, 1NA13BAX7, 1NA13BABD, 1KQ76GPNR, 1OT52HA ICD-9 diagnostic codes: 572.2, 572.3, 572.4, 456.0, 456.2, 782.4, 789.5 ICD-10 diagnostic codes: K76.6, K76.7, R17, K72.1, K72.9, I85.0, I98.20, I98.3, I86.4, R18
ORGD	ICD-9 codes for cause of death: 571.5, 571.2, 572.2, 572.3, 572.4, 572.8, 456.0 ICD-10 codes for cause of death: K72.1, K72.9, K70.3, K70.4, K71.7, K74, K74.6, K76.6, K76.7, I85, I98.2, I98.3, I86.4

Notes: The algorithm consisted of one physician visit code for cirrhosis and any one of the hospital diagnosis, procedure, or cause of death codes.

Abbreviations: CIHI, Canadian Institute for Health Information; DAD, Discharge Abstract Database; CCI, Canadian Classification of Health Interventions; CCP, Canadian Classification of Procedures; ICD, International Classification of Diseases; NACRS, National Ambulatory Care Reporting System; ORGD, Office of the Registrar General Deaths register; SDS, same day surgery database.

**Table S7. Codes used to identify cases of hepatocellular carcinoma.**

Databases Searched	Codes Searched
CIHI-DAD, CIHI-SDS, and CIHI-NACRS	ICD-9 diagnostic code: 155.0 ICD-10 diagnostic codes: C22.9, C22.0, 81703, 81803
ORGD	ICD-9 code for cause of death: 155.0 ICD-10 codes for cause of death: 81703, 81803
OCR	Topography: C22.0 Morphology: 81703, 81723, 81733, 81743, 81753, 81803

Notes: The algorithm consisted of a diagnosis in the Ontario Cancer Registry, a hospital diagnostic code, or a cause of death code. Diagnosis in the Ontario Cancer Registry (OCR) used the ICD-O coding system and consisted of one topography code and a 5-digit morphology code.

Abbreviations: CIHI, Canadian Institute for Health Information; DAD, Discharge Abstract Database; ICD, International Classification of Diseases; ICD-O, International Classification of Diseases- Oncology; NACRS, National Ambulatory Care Reporting System; OCR, Ontario Cancer Registry; ORGD, Office of the Registrar General Deaths register; SDS, same day surgery database.

**Table S8. Codes used to identify cases of liver transplant.**

Databases Searched	Codes Searched
CIHI-DAD, CIHI-SDS, and CIHI-NACRS	ICD-9 diagnostic codes: V42.7, 996.82 ICD-10 diagnostic codes: Z94.4, T86.40, T86.41, T86.42, T86.43, T86.49, T86.9 CCI codes: 1OA85LAXXK, 1OA85VCXXK, 1OA85WLXXJ, 1OA85WLXXK

Notes: The algorithm consisted of the presence of any of the diagnostic or procedure codes.  
Abbreviations: CIHI, Canadian Institute for Health Information; DAD, Discharge Abstract Database; CCI, Canadian Classification of Health Interventions; ICD, International Classification of Diseases; NACRS, National Ambulatory Care Reporting System; SDS, same day surgery database.