

eTable 1. Frequency of diagnoses for 30-day readmissions by CIHI Case Mix Group (CMG) Major Clinical/Diagnostic Category

Rank	Alberta			Ontario		
	CIHI CMG Major Clinical Category and description	Percent		CIHI CMG Major Clinical Category and description	Percent	
1	4	Diseases and Disorders of the Respiratory System	43.6	4	Diseases and Disorders of the Respiratory System	48.5
2	5	Diseases and Disorders of the Circulatory System	9.9	5	Diseases and Disorders of the Circulatory System	11.6
3	17	Mental Diseases & Disorders	6.4	6	Diseases and Disorders of the Digestive System	6.5
4	20	Other Reasons for Hospitalization	5.8	20	Other Reasons for Hospitalization	5.0
5	6	Diseases and Disorders of the Digestive System	5.0	11	Diseases and Disorders of the Kidney, Urinary Tract & Male Reproductive System	4.6
6	19	Trauma, Injury, Poisoning & Toxic Effect of Drugs	4.6	17	Mental Diseases & Disorders	3.4
7	11	Diseases and Disorders of the Kidney, Urinary Tract & Male Reproductive System	4.3	16	Multisystemic or Unspecified Site Infections	3.4
8	1	Diseases and Disorders of the Nervous System	3.7	1	Diseases and Disorders of the Nervous System	3.1
9	10	Diseases and Disorders of the Endocrine System, Nutrition & Metabolism	3.6	19	Trauma, Injury, Poisoning & Toxic Effect of Drugs	2.9
10	7	Diseases and Disorders of the Hepatobiliary System & Pancreas	2.4	10	Diseases and Disorders of the Endocrine System, Nutrition & Metabolism	2.6
11	15	Diseases and Disorders of the Blood & Lymphatic System	2.4	7	Diseases and Disorders of the Hepatobiliary System & Pancreas	2.4
12	8	Diseases and Disorders of the Musculoskeletal System & Connective Tissue	2.2	8	Diseases and Disorders of the Musculoskeletal System & Connective Tissue	2.0
13	9	Diseases and Disorders of the Skin, Subcutaneous Tissue & Breast	2.1	15	Diseases and Disorders of the Blood & Lymphatic System	1.7
14	16	Multisystemic or Unspecified Site Infections	2	9	Diseases and Disorders of the Skin, Subcutaneous Tissue & Breast	1.3

eTable 2. Baseline characteristics of Alberta and Ontario adults hospitalized with a SARS-CoV2 positive test and discharged alive after a hospital stay of 30 days or less between Jan 2020 and Sep 2021, stratified by readmission or death within 7 and 90 days after discharge

Characteristic	Alberta					Ontario				
	Overall	Readmission or death within 7 days		Readmission or death within 90 days		Overall	Readmission or death within 7 days		Readmission or death within 90 days	
		Yes	No	Yes	No		Yes	No	Yes	No
Patients, n	N = 7875	N = 397	N = 7478	N = 1169	N = 6706	N=22,461	N=1307	N=21,154	N=3356	N=19,105
	<i>n (%), unless otherwise specified</i>					<i>n (%), unless otherwise specified</i>				
Mean age at time of admission, years (SD)	57.4 (17.3)	64.8 (18.1)	57.1 (17.1)	63.6 (18.4)	56.4 (16.9)	61.4 (17.2)	69.7 (17.1)	60.9 (17.0)	70.2 (17.1)	59.9 (16.7)
Male	4429 (56.2)	249 (62.7)	4180 (55.9)	677 (57.9)	3752 (55.9)	12,333 (54.9)	746 (57.1)	11,587 (54.8)	1815 (54.1)	10,518 (55.1)
Rural resident	1474 (18.7)	83 (20.9)	1391 (18.6)	236 (20.2)	1238 (18.5)	879 (3.9)	56 (4.3)	823 (3.9)	144 (4.3)	735 (3.8)
Deprivation index quintile*										
1 (least deprived)	951 (12.1)	37 (9.3)	914 (12.2)	123 (10.5)	828 (12.3)	3357 (14.9)	174 (13.3)	3183 (15.0)	484 (14.4)	2873 (15.0)
2	1138 (14.5)	57 (14.4)	1081 (14.5)	146 (12.5)	992 (14.8)	3811 (17.0)	231 (17.7)	3580 (16.9)	563 (16.8)	3248 (17.0)
3	1230 (15.6)	48 (12.1)	1182 (15.8)	156 (13.3)	1074 (16.0)	4140 (18.4)	261 (20.0)	3879 (18.3)	615 (18.3)	3525 (18.5)
4	1484 (18.8)	86 (21.7)	1398 (18.7)	211 (18.0)	1273 (19.0)	4652 (20.7)	255 (19.5)	4397 (20.8)	678 (20.2)	3974 (20.8)
5 (most deprived)	2187 (27.8)	112 (28.2)	2075 (27.7)	339 (29.0)	1848 (27.6)	6275 (27.9)	373 (28.5)	5902 (27.9)	978 (29.1)	5297 (27.7)
Unknown	885 (11.2)	57 (14.4)	828 (11.1)	194 (16.6)	691 (10.3)	226 (1.0)	13 (1.0)	213 (1.0)	38 (1.1)	188 (1.0)
Long-term care resident	98 (1.2)	8 (2.0)	90 (1.2)	41 (3.5)	57 (0.8)	516 (2.3)	81 (6.2)	435 (2.1)	208 (6.2)	308 (1.6)
Non-elective hospitalization in previous 12 months	1666 (21.2)	127 (32.0)	1539 (20.6)	487 (41.7)	1179 (17.6)	3183 (14.2)	358 (27.4)	2825 (13.4)	1162 (34.6)	2021 (10.6)
Non-elective hospitalization in previous 3 months	1016 (12.9)	67 (16.9)	949 (12.7)	281 (24.0)	735 (11.0)	1576 (7.0)	210 (16.1)	1366 (6.5)	681 (20.3)	895 (4.7)
ED visit in previous 6 months	4782 (60.7)	264 (66.5)	4518 (60.4)	838 (71.7)	3944 (58.8)	13,096 (58.3)	835 (63.9)	12,261 (58.0)	2241 (66.8)	10,855 (56.8)

Number of ED visits in previous 6 months, median (Q1-Q3)	1 (1-2)	2 (1-3)	1 (1-2)	2 (1-4)	1 (1-2)	0 (0-1)	0 (0-2)	0 (0-1)	1 (0-2)	0 (0-1)
Index hospitalization episode characteristics										
Elective	148 (1.9)	12 (3.0)	136 (1.8)	36 (3.1)	112 (1.7)	313 (1.4)	24 (1.8)	289 (1.4)	62 (1.8)	251 (1.3)
Urgent/emergent	7727 (98.1)	385 (97.0)	7342 (98.2)	1133 (96.9)	6594 (98.3)	22,148 (98.6)	1283 (98.2)	20,865 (98.6)	3294 (98.2)	18,854 (98.7)
SARS-CoV-2 positive prior to or within 48 hours of admission	7179 (91.2)	357 (89.9)	6822 (91.2)	1029 (88.0)	6150 (91.7)	21,184 (94.3)	1155 (88.4)	20,029 (94.7)	2908 (86.7)	18,276 (95.7)
SARS-CoV-2 positive after 48 hours of admission	696 (8.8)	40 (10.1)	656 (8.8)	140 (12.0)	556 (8.3)	1277 (5.7)	152 (11.6)	1125 (5.3)	448 (13.3)	829 (4.3)
Discharged on weekend/holiday	2128 (27.0)	111 (28.0)	2017 (27.0)	306 (26.2)	1822 (27.2)	4531 (20.2)	286 (21.9)	4245 (20.1)	595 (17.7)	3936 (20.6)
Medical	7615 (96.7)	388 (97.7)	7227 (96.6)	1118 (95.6)	6497 (96.9)	21,774 (96.9)	1253 (95.9)	20,521 (97.0)	3200 (95.4)	18,574 (97.2)
Surgical	260 (3.3)	9 (2.3)	251 (3.4)	51 (4.4)	209 (3.1)	687 (3.1)	54 (4.1)	633 (3.0)	156 (4.6)	531 (2.8)
ICU admission	1055 (13.4)	25 (6.3)	1030 (13.8)	81 (6.9)	974 (14.5)	3487 (15.5)	110 (8.4)	3377 (16.0)	360 (10.7)	3127 (16.4)
ICU hours among those with an ICU stay, median (Q1-Q3)	134 (75-219)	112 (48-168)	135 (76-219)	101 (47-182)	140 (77-221)	120 (65-209)	115 (47-219)	120 (65-208)	103 (47-202)	122 (67-210)
Teaching hospital	1316 (16.7)	63 (15.9)	1253 (16.8)	208 (17.8)	1108 (16.5)	4671 (20.8)	304 (23.3)	4367 (20.6)	765 (22.8)	3906 (20.4)
Mean length of stay (SD)	8.09 (6.15)	7.41 (6.70)	8.12 (6.11)	8.84 (6.94)	7.96 (5.99)	8.6 (6.7)	8.3 (7.6)	8.6 (6.6)	9.9 (7.7)	8.4 (6.5)
Discharge disposition										
Home without home care	6683 (84.9)	278 (70.0)	6405 (85.7)	787 (67.3)	5896 (87.9)	14,107 (62.8)	580 (44.4)	13,527 (63.9)	1348 (40.2)	12,759 (66.8)
Home with home care	671 (8.5)	72 (18.1)	599 (8.0)	230 (19.7)	441 (6.6)	6470 (28.8)	558 (42.7)	5912 (27.9)	1490 (44.4)	4980 (26.1)
Long-term care/skilled nursing facility	521 (6.6)	47 (11.8)	474 (6.3)	152 (13.0)	369 (5.5)	1884 (8.4)	169 (12.9)	1715 (8.1)	518 (15.4)	1366 (7.1)
SARS-Cov-2 strain										
Ancestral, original strain	3018 (38.3)	172 (43.3)	2846 (38.1)	500 (42.8)	2518 (37.5)	8647 (38.5)	557 (42.6)	8090 (38.2)	1442 (43.0)	7205 (37.7)

Alpha VOC	1551 (19.7)	49 (12.3)	1502 (20.1)	153 (13.1)	1398 (20.8)	7059 (31.4)	331 (25.3)	6728 (31.8)	808 (24.1)	6251 (32.7)
Delta VOC	1429 (18.1)	80 (20.2)	1349 (18.0)	193 (16.5)	1236 (18.4)	867 (3.9)	46 (3.5)	821 (3.9)	94 (2.8)	773 (4.0)
Other VOC	227 (2.9)	6 (1.5)	221 (3.0)	14 (1.2)	213 (3.2)	1464 (6.5)	78 (6.0)	1386 (6.6)	174 (5.2)	1290 (6.8)
Untested/indeterminate	1650 (21.0)	90 (22.7)	1560 (20.9)	309 (26.4)	1341 (20.0)	4424 (19.7)	295 (22.6)	4129 (19.5)	838 (25.0)	3586 (18.8)
Vaccination status										
Fully vaccinated (two or more doses)	312 (4.0)	27 (6.8)	285 (3.8)	91 (7.8)	221 (3.3)	312 (1.4)	34 (2.6)	278 (1.3)	96 (2.9)	216 (1.1)
Partially vaccinated (one dose)	407 (5.2)	19 (4.8)	388 (5.2)	72 (6.2)	335 (5.0)	754 (3.4)	98 (7.5)	649 (3.1)	281 (8.4)	466 (2.4)
Unvaccinated	7156 (90.9)	351 (88.4)	6805 (91.0)	1006 (86.1)	6150 (91.7)	21,395 (95.3)	1175 (89.9)	20,227 (95.6)	2979 (88.8)	18423 (96.4)
Comorbidities from index hospitalization episode and hospitalizations in prior year										
Mean Charlson comorbidity score (SD)	1.0 (1.6)	1.6 (2.0)	1.0 (1.6)	1.9 (2.3)	0.8 (1.4)	0.4 (1.3)	0.9 (2.0)	0.4 (1.2)	1.2 (2.2)	0.2 (1.0)
Chronic pulmonary disease (COPD/asthma)	593 (7.5)	41 (10.3)	552 (7.4)	142 (12.1)	451 (6.7)	1693 (7.5)	135 (10.3)	1558 (7.4)	393 (11.7)	1300 (6.8)
Heart failure or cardiomyopathy	291 (3.7)	31 (7.8)	260 (3.5)	107 (9.2)	184 (2.7)	1296 (5.8)	160 (12.2)	1136 (5.4)	528 (15.7)	768 (4.0)
Hypertension	933 (11.8)	63 (15.9)	870 (11.6)	197 (16.9)	736 (11.0)	6220 (27.7)	437 (33.4)	5783 (27.3)	1243 (37.0)	4977 (26.1)
Diabetes mellitus	2325 (29.5)	137 (34.5)	2188 (29.3)	416 (35.6)	1909 (28.5)	7103 (31.6)	511 (39.1)	6592 (31.2)	1341 (40.0)	5762 (30.2)
Coronary artery disease, including prior myocardial infarction, CABG surgery, PCI/stenting	251 (3.2)	18 (4.5)	233 (3.1)	63 (5.4)	188 (2.8)	1301 (5.8)	149 (11.4)	1152 (5.4)	386 (11.5)	915 (4.8)
Peripheral arterial disease	46 (0.6)	7 (1.8)	39 (0.5)	19 (1.6)	27 (0.4)	235 (1.0)	30 (2.3)	205 (1.0)	88 (2.6)	147 (0.8)
Cerebrovascular disease (including previous stroke/transient ischemic attack)	96 (1.2)	3 (0.8)	93 (1.2)	23 (2.0)	73 (1.1)	477 (2.1)	38 (2.9)	439 (2.1)	139 (4.1)	338 (1.8)
Atrial fibrillation/flutter	314 (4.0)	21 (5.3)	293 (3.9)	87 (7.4)	227 (3.4)	1425 (6.3)	139 (10.6)	1286 (6.1)	441 (13.1)	984 (5.2)

Ventricular arrhythmias	14 (0.2)	0 (0.0)	14 (0.2)	4 (0.3)	10 (0.1)	61 (0.3)	8 (0.6)	53 (0.3)	20 (0.6)	41 (0.2)
Renal disease	228 (2.9)	25 (6.3)	203 (2.7)	77 (6.6)	151 (2.3)	939 (4.2)	116 (8.9)	823 (3.9)	330 (9.8)	609 (3.2)
Cancer	214 (2.7)	21 (5.3)	193 (2.6)	94 (8.0)	120 (1.8)	1076 (4.8)	141 (10.8)	935 (4.4)	423 (12.6)	653 (3.4)
Other lung disease (non-COPD/asthma)	140 (1.8)	16 (4.0)	124 (1.7)	61 (5.2)	79 (1.2)	375 (1.7)	42 (3.2)	333 (1.6)	125 (3.7)	250 (1.3)
Peptic ulcer disease	47 (0.6)	2 (0.5)	45 (0.6)	15 (1.3)	32 (0.5)	143 (0.6)	14 (1.1)	129 (0.6)	55 (1.6)	88 (0.5)
Liver disease	171 (2.2)	15 (3.8)	156 (2.1)	63 (5.4)	108 (1.6)	431 (1.9)	37 (2.8)	394 (1.9)	123 (3.7)	308 (1.6)
Dementia	168 (2.1)	24 (6.0)	144 (1.9)	61 (5.2)	107 (1.6)	1065 (4.7)	158 (12.1)	907 (4.3)	415 (12.4)	650 (3.4)
Mean LACE score (SD)	9.2 (2.9)	9.5 (3.5)	9.2 (2.8)	10.6 (3.5)	8.9 (2.7)	8.6 (2.7)	9.2 (3.3)	8.5 (2.7)	9.9 (3.2)	8.3 (2.5)

Abbreviations: CABG, coronary artery bypass graft; COPD, chronic obstructive pulmonary disease; ED, emergency department; ICU, intensive care unit; PCI, percutaneous coronary intervention; SD, standard deviation.

* Results for Alberta are based on the Pampalon index and Ontario's on the Ontario Marginalization index.