

Supplemental Table S1. Numbers of medication by class prescribed to hospitalised Calgary seniors 2013-2021.

Medication Class	Count
Statin	2706992
PPI	2477437
Calciumblocker	2343022
Betablocker	2120849
Appropriatebetablocker*	1866600
Aceinhibitor	1786653
Antiplatelet	1724720
NSAID	1661178
Thyroxine	1537833
ARB	1363172
Aspirin	1317398
Opioid	1263059
Acetaminophen	1194105
SSRI	1076966
Loopdiuretic	996801
Metformin	962475
Antidepressantmore	915163
Hypnotic	791259
A1blocker	727397
Anticholmusc	692128
Corticost systemic	678234
Neuroleptic	677408
Vitkantagonist	661224
Beta2agonist	582813
Laxative	574443
SNRI	563657
Hypocalcaemia	562393
Benzodiazepine	529618
Bisphosphonate	522139

Supplemental Table S2. First admission. Gender, age, comorbidities, numbers of medications, PIMs, PPOs, Charlson Index and correlations with readmission or mortality within 6 months of discharge (data for 129443 admissions).

Risk factor	Readmission within 6 months			Mortality within 6 months		
	Unadjusted ORs and 95% CIs					
	OR	95%CI	p	OR	95%CI	p
Gender	1.17	1.14-1.20	<.001	1.07	1.03-1.11	<.001
Age at admission	1.01	1.01-1.02	<.001	1.07	1.07-1.07	<.001
Number of comorbidities	1.06	1.05-1.06	<.001	1.21	1.20-1.21	<.001
Post admission Rx number	1.13	1.12-1.13	<.001	1.07	1.06-1.07	<.001
Total STOPP PIMs	1.17	1.16-1.17	<.001	1.04	1.03-1.05	<.001
START Omissions (PPOs) not corrected	1.51	1.47-1.55	<.001	2.47	2.57-2.56	<.001
START Omissions (PPOs) correctly prescribed	1.43	1.39-1.47	<.001	1.03	0.99-1.07	.109
AGS Beers PIMs	1.12	1.11-1.12	<.001	1.11	1.11-1.12	<.001
Charlson Index	1.12	1.12-1.13	<.001	1.46	1.45-1.47	<.001
ORs and 95% CIs adjusted for age at admission, gender (male) and comorbidities						
	OR	95%CI	p	OR	95%CI	p
Post admission Rx number	1.12	1.12-1.12	<.001	1.04	1.04-1.05	<.001
Total STOPP PIMs	1.16	1.15-1.16	<.001	0.99	0.96-1.00	<.001

START PPOs not prescribed	1.39	1.35-1.42	<.001	1.56	1.50-1.63	<.001
START PPOS correctly prescribed	1.26	1.23-1.30	<.001	0.51	0.49-0.53	<.001
AGS Beers	1.11	1.11-1.11	<.001	1.08	1.07-1.08	<.001

Supplemental Table S3. Second admission. Numbers of medications, PIMs, PPOs, and correlations with readmission or mortality within 6 months of discharge (data for 64441 admissions).

Risk factor	Readmission within 6 months			Mortality within 6 months		
ORs and 95%CI's adjusted for age at admission, gender (male) and comorbidities						
	OR	95%CI	p	OR	95%CI	p
Post admission Rx number	1.11	1.11-1.12	<.001	1.01	1.1-1.02	<.001
Total STOPP PIMs	1.15	1.14-1.15	<.001	0.98	0.98-0.99	<.001
START PPOs not corrected	1.41	1.36-1.46	<.001	1.44	1.37-1.51	<.001
START PPOS correctly prescribed	1.36	1.31-1.41	<.001	0.52	0.50-0.55	<.001
AGS Beers	1.10	1.10-1.11	<.001	1.07	1.06-1.07	<.001

Supplemental Table S4. Third admission. Numbers of medications, PIMs, PPOs, and correlations with readmission or mortality within 6 months of discharge (data for 35206 admissions).

Risk factor	Readmission within 6 months			Mortality within 6 months		
ORs and 95%CI's adjusted for age at admission, gender (male) and comorbidities						
Post admission Rx number	1.10	1.09-1.10	<.001	1.00	0.99-1.01	<.667
Total STOPP PIMs	1.14	1.13-1.15	<.001	0.98	0.97-1.00	<.004
START PPOs not corrected	1.41	1.35-1.48	<.001	1.33	1.25-1.41	<.001
START PPOS correctly prescribed	1.42	1.36-1.49	<.001	1.04	1.04-1.04	<.001
AGS Beers	1.09	1.08-1.10	<.001	1.06	1.05-1.06	<.001

Supplemental Table S5. Fourth admission. Numbers of medications, PIMs, PPOs, Charlson Index and correlations with readmission or mortality within 6 months of discharge (data for 20354 admissions).

Risk factor	Readmission within 6 months			Mortality within 6 months		
ORs and 95%CI's adjusted for age at admission, gender (male) and comorbidities						
	OR	95%CI	p	OR	95%CI	p
Post admission Rx number	1.10	1.09-1.10	<.001	0.98	0.98-0.99	<.001
Total STOPP PIMs	1.15	1.14-1.17	<.001	0.96	0.95-0.98	<.001
START PPOs not corrected	1.35	1.28-1.44	<.001	1.30	1.21-1.40	<.001
START PPOS correctly prescribed	1.50	1.41-1.59	<.001	0.56	0.52-0.61	<.001
AGS Beers	1.09	1.08-1.101	<.001	1.04	1.03-1.05	<.001

Supplemental Table S6. Fifth admission. Number of medications, PIMs, PPOs, Charlson Index and correlations with readmission or mortality within 6 months of discharge (data for 12271 admissions).

Risk factor	Readmission within 6 months			Mortality within 6 months		
ORs and 95%CI's adjusted for age at admission, gender (male) and comorbidities						
	OR	95%CI	p	OR	95%CI	p
Post admission Rx number	1.08	1.07-1.09	<.001	0.97	0.96-0.98	<.001
Total STOPP PIMs	1.13	1.12-1.15	<.001	0.97	0.95-0.98	<.001
START PPOs not corrected	1.38	1.28-1.49	<.001	1.23	1.12-1.34	<.001
START PPOS correctly prescribed	1.49	1.38-1.60	<.001	0.63	0.57-0.68	<.001
AGS Beers	1.07	1.06-1.09	<.001	1.03	1.03-1.04	<.001

Supplemental Table S7. Sixth admission. Numbers of medications, PIMs, PPOs, Charlson Index and correlations with readmission or mortality within 6 months of discharge (data for 7577 admissions).

Risk factor	Readmission within 6 months			Mortality within 6 months		
ORs and 95%CI's adjusted for age at admission, gender (male) and comorbidities						
	OR	95%CI	p	OR	95%CI	p
Post admission Rx number	1.08	1.07-1.09	<.001	0.95	0.94-0.96	<.001
Total STOPP PIMs	1.14	1.12-1.16	<.001	0.97	0.95-0.99	<.001
START PPOs not corrected	1.47	1.34-1.62	<.001	1.24	1.11-1.40	<.001
START PPOS correctly prescribed	1.64	1.49-1.81	<.001	0.68	0.61-0.76	<.001
AGS Beers	1.08	1.07-1.09	1<.001	1.02	1.01-1.04	<.001

Supplemental Table S8. Seventh through 39th admissions. Numbers of medications, PIMs, PPOs, Charlson Index and correlations with readmission or mortality within 6 months of discharge (data for 10994 admissions).

Risk factor	Readmission within 6 months			Mortality within 6 months		
ORs and 95%CIs adjusted for age at admission, gender (male) and comorbidities						
	OR	95%CI	p	OR	95%CI	p
Post admission Rx number	1.06	1.06-1.07	<.001	0.95	0.94-0.96	<.001
Total STOPP PIMs	1.13	1.12-1.15	<.001	0.94	0.93-0.96	<.001
START PPOs not corrected	1.23	1.14-1.34	<.001	1.14	1.04-1.26	<.001
START PPOS correctly prescribed	1.53	1.41-1.65	<.001	0.71	0.65-0.78	<.001
AGS Beers	1.07	1.06-1.08	<.001	1.00	0.99-1.01	<.892

Supplemental Table S9. Population of Calgary ages 65 to 100+, Canadian Census 2022.

Population of Calgary 2022 Canadian Census						
Age	Counts			Rates in total population		
	Total	Male	Female	Total	Male	Female
65-69	62120	30410	31710	4.8	4.7	4.8
70-74	46495	22225	24270	3.6	3.4	3.7
75-79	28965	13485	15485	2.2	2.1	2.4
80-84	19405	8370	11035	1.5	1.3	1.7
85-89	12620	4995	7625	1.0	0.8	1.2
90-94	6225	2115	4110	0.5	0.3	0.6
96-99	1375	390	990	0.1	0.1	0.2
≥100	195	45	155	0.0	0.0	0.0
Total	177405	82035	95375	13.6	12.6	14.5

Source: <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/index.cfm?Lang=E>.