

APPENDICES

Appendix 1: CIHI list of ADEs

The ADE definition is derived from the CIHI (2013) definition:

- A most responsible diagnosis code that was either drug-related or due to a drug (see table below), provided that the most responsible diagnosis was not indicated to have occurred post-admission; or
- A pre-admission comorbidity that was either drug related or due to a drug (see table below); or
- An external cause code that was drug-related (ICD-10 codes Y40 to Y59).

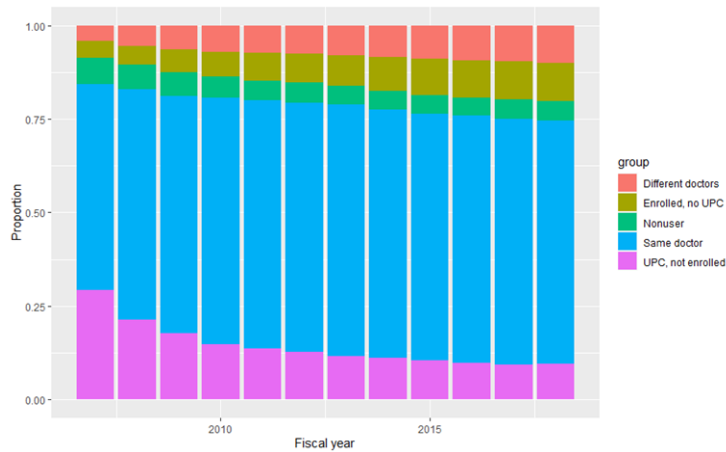
Cases where the most responsible diagnosis occurred post-admission are excluded. These cases can be identified when the same diagnosis was coded as both the most responsible diagnosis and a post-admission comorbidity.

ICD-10-CA Code	Description	ICD-10-CA Code	Description
D52.1	Drug-induced folate deficiency anaemia	M10.25	Drug-induced gout, pelvic region and thigh
D59.0	Drug-induced autoimmune haemolytic anaemia	M10.26	Drug-induced gout, lower leg
D59.2	Drug-induced nonautoimmune haemolytic anaemia	M10.27	Drug-induced gout, ankle and foot
D61.1	Drug-induced aplastic anaemia	M10.28	Drug-induced gout, other site
D64.2	Secondary sideroblastic anaemia due to drugs and toxins	M10.29	Drug-induced gout, unspecified site
D68.3	Haemorrhagic disorder due to circulating anticoagulants	M32.0	Drug-induced systemic lupus erythematosus
D89.3	Immune reconstitution syndrome	M34.2	Systemic sclerosis induced by drugs and chemicals
E03.2	Hypothyroidism due to medicaments and other exogenous substances	M80.40	Drug-induced osteoporosis with pathological fracture, multiple sites
E06.4	Drug-induced thyroiditis	M80.42	Drug-induced osteoporosis with pathological fracture, upper arm
E16.0	Drug-induced hypoglycaemia without coma	M80.43	Drug-induced osteoporosis with pathological fracture, forearm
E23.1	Drug-induced hypopituitarism	M80.45	Drug-induced osteoporosis with pathological fracture, pelvic region and thigh
E24.2	Drug-induced Cushing's syndrome	M80.46	Drug-induced osteoporosis with pathological fracture, lower leg
E27.3	Drug-induced adrenocortical insufficiency	M80.48	Drug-induced osteoporosis with pathological fracture, other site
E66.1	Drug-induced obesity	M81.4	Drug-induced osteoporosis
G04.0	Acute disseminated encephalitis	M83.5	Other drug-induced osteomalacia in adults
G21.0	Malignant neuroleptic syndrome	M87.11	Osteonecrosis due to drugs, shoulder region
G21.1	Other drug-induced secondary parkinsonism	M87.12	Osteonecrosis due to drugs, upper arm
G24.0	Drug-induced dystonia	M87.15	Osteonecrosis due to drugs, pelvic region and thigh
G25.1	Drug-induced tremor	M87.16	Osteonecrosis due to drugs, lower leg
G25.4	Drug-induced chorea	M87.18	Osteonecrosis due to drugs, other site
G25.6	Drug-induced tics and other tics of organic origin	N14.0	Analgesic nephropathy
G44.4	Drug-induced headache, not elsewhere classified	N14.1	Nephropathy induced by other drugs, medicaments and biological substances
G61.1	Serum neuropathy	N14.2	Nephropathy induced by unspecified drug, medicament or biological substance
G62.0	Drug-induced polyneuropathy	R50.2	Drug-induced fever
G72.0	Drug-induced myopathy	T80.3	ABO incompatibility reaction
H40.6	Glaucoma secondary to drugs	T80.4	Rh incompatibility reaction
H91.0	Ototoxic hearing loss	T80.5	Anaphylactic shock due to serum
I42.7	Cardiomyopathy due to drugs and other external agents	T80.6	Other serum reactions
I95.2	Hypotension due to drugs	T80.8	Other complications following infusion, transfusion and therapeutic injection
J70.2	Acute drug-induced interstitial lung disorders	T80.9	Unspecified complication following infusion, transfusion and therapeutic injection
J70.3	Chronic drug-induced interstitial lung disorders	T88.1	Other complications following immunization, not elsewhere classified
J70.4	Drug-induced interstitial lung disorders, unspecified	T88.2	Shock due to anaesthesia
K85.3	Drug-induced acute pancreatitis	T88.3	Malignant hyperthermia due to anaesthesia
L10.5	Drug-induced pemphigus	T88.5	Other complications of anaesthesia
L23.3	Allergic contact dermatitis due to drugs in contact with skin	T88.6	Anaphylactic shock due to adverse effect of correct drug or medicament properly administered
L24.4	Irritant contact dermatitis due to drugs in contact with skin	T88.7	Unspecified adverse effect of drug or medicament
L25.1	Unspecified contact dermatitis due to drugs in contact with skin		
L27.0	Generalized skin eruption due to drugs and medicaments		
L43.2	Lichenoid drug reaction		
L56.0	Drug phototoxic response		
L56.1	Drug photoallergic response		
M10.20	Drug-induced gout, multiple sites		
M10.22	Drug-induced gout, upper arm		
M10.24	Drug-induced gout, hand		

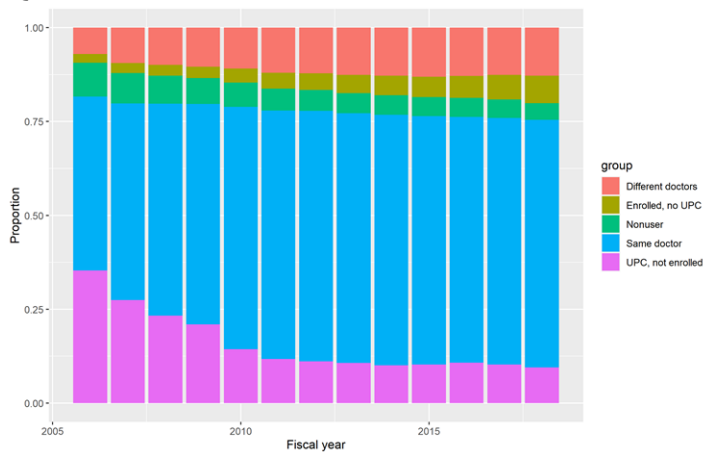
Appendix 2: Trends in patient/provider attachment among older adults in Ontario and Quebec

The plots below demonstrate the nature of patient/provider attachment over time in Ontario and Quebec, respectively. Arguably, barring access barriers or suboptimal quality of care, patients should preferentially seek primary care from the family physician with whom they are enrolled in the interest of ensuring continuity of care. As of 2018 in both provinces, we found that this was the case: most older adults in our cohorts were enrolled with the physician who was also their UPC, and this proportion increased over our observation period. Less than 15% of older adults enrolled in either province routinely sought care from a different family physician. Nonusers (unenrolled individuals with no contact with a family physician most) and enrolled older adults who did not seek care from their family physician were relatively rare in both provinces over the course of the observation period. While some patients may formally disenroll from their family physician, this was quite rare in our sample, occurring in 1-2% of patients per fiscal year in Quebec.

Ontario



Quebec



Appendix 3: Medication trends

FHT vs. non-FHT

	ON							
	FHT				Non-FHT			
	2006	2010	2014	2018	2006	2010	2014	2018
Pharmaceutical outcomes								
ADEs (1+) ¹	0.8%	0.8%	0.8%	1.0%	0.7%	0.7%	0.7%	0.8%
Polypharmacy ²	62.9%	63.1%	62.8%	61.9%	61.9%	62.5%	61.9%	60.6%
PIPs ³ : specific drug classes/combinations								
Opioid (any)	25.4%	23.2%	21.4%	19.3%	23.7%	22.7%	20.4%	18.3%
Benzodiazepines	19.2%	17.6%	14.1%	11.9%	20.0%	17.6%	14.0%	11.8%
Anticholinergics	12.5%	11.6%	10.3%	9.1%	11.9%	10.7%	9.5%	8.3%
Proton pump inhibitors (PPIs)	25.5%	29.8%	31.9%	30.8%	24.0%	28.5%	30.4%	29.4%
Opioid + benzodiazepines	8.0%	6.8%	5.4%	4.5%	7.7%	6.9%	5.3%	4.3%
NSAIDs+anticoagulants	1.3%	1.3%	1.2%	1.1%	1.3%	1.2%	1.1%	1.0%
Long-acting sulfonylureas	6.0%	3.3%	1.1%	0.4%	6.8%	4.0%	1.5%	0.6%
NSAIDs + concurrent antiplatelet (without PPI)	1.0%	1.1%	0.8%	0.5%	1.0%	1.1%	0.8%	0.6%

¹ADE=Adverse drug event (based on CIHI's list of ICD-10 codes). ²Based conversion of DINs to 3rd level ATC codes. ³PIP=potentially inappropriate prescription.

GMF vs. non-GMF

	QC							
	GMF				Non-GMF			
	2006	2010	2014	2018	2006	2010	2014	2018
Pharmaceutical outcomes								
ADEs (1+) ¹	1.9%	2.0%	1.9%	1.7%	1.6%	1.6%	1.6%	1.6%
Polypharmacy ²	66.6%	68.1%	68.4%	66.7%	60.6%	62.7%	62.0%	61.6%
PIPs ³ : specific drug classes/combinations								
Opioid (any)	10.7%	10.4%	11.4%	11.2%	9.8%	9.6%	10.4%	10.5%
Benzodiazepines	35.0%	31.1%	27.7%	22.7%	30.5%	27.8%	24.1%	20.3%
Anticholinergics	14.0%	13.5%	13.4%	13.1%	12.5%	12.5%	12.2%	12.0%
Proton pump inhibitors (PPIs)	28.7%	33.7%	37.4%	38.3%	26.1%	30.4%	32.9%	34.4%
Opioid + benzodiazepines	1.8%	1.4%	1.3%	1.0%	1.6%	1.3%	1.1%	0.9%
NSAIDs+anticoagulants	0.3%	0.2%	0.2%	0.2%	0.3%	0.2%	0.2%	0.2%
Long-acting sulfonyleureas	5.7%	3.5%	2.3%	1.8%	5.5%	3.7%	2.4%	1.9%
NSAIDs + concurrent antiplatelet (without PPI)	0.4%	0.3%	0.2%	0.1%	0.3%	0.3%	0.1%	0.1%

¹ADE=adverse drug event (based on CIHI's list of ICD-10 codes). ²Based conversion of DINs to 3rd level ATC codes. ³PIP=potentially inappropriate prescription. NSAIDs: nonsteroidal anti-inflammatory drugs

Appendix 4: Other PIP trends, by province/enrollment status

