eTable 1. Exclusions to chronic medications list.

Acute and not included in Chronic definition	Rationale	Exceptions: can be included in chronic definition
Anti-infectives	Frequently short courses of treatment	HIV antivirals, some viral hepatitis medications that are typically given for more than 12 months
Anti-histamines	Frequently short courses of treatment	
Anti-neoplastics	Short courses of treatment, and usually not dispensed by a community pharmacist.	exception: oral Immunosuppressive, immunomodulatory agents, hormone blocking agents. Decisions based on usual dosing regimen. If dosage was cyclical, then excluded. If no cycle specified, assumed would be chronic. Of if specified "continue until disease progression or unacceptable toxicity" with a cycle, assumed to be chronic.
Muscle relaxants/ antispasticity drugs	Frequently short courses of treatment	
GI meds: anti-nauseants, anti-emetics, cathartics/laxatives, stool softener, antiflatulents	Frequently short courses of treatment	
Cough preparations	Frequently short courses of treatment	
Skin and mucous membrane preparations	Often short courses of treatment	
Injectable medication	Usually not dispensed by a community pharmacist	Pre-filled syringes and kits, insulins and low molecular weight heparins.
Intravenous medication	Would most often not be dispensed by a community pharmacist	
Erythropoetin analogs	Usually not dispensed by a community pharmacist	
Acetaminophen and codeine combinations	Short courses of treatment	
Electrolyte replacement solutions	Short courses of treatment	
Insulin test strips and supplies	Not medications in traditional sense	
Vitamins and supplements		
Nutritional Supplies		

Lapointe-Shaw L, *et al. BMJ Qual Saf* 2019; 29:41–51. doi: 10.1136/bmjqs-2019-009545

eTable 2. MedsCheck service codes, monetary value, and criteria

MedsCheck Name and Drug Identification Number (DIN)	Year of Introduction	Monetary Value ($ CAN)	Criteria
MedsCheck Annual (93899979)	2007	$60*	At least three prescribed medications for chronic condition(s)
MedsCheck Follow-up Hospital Discharge (93899981)	2007	$25	Meets criteria for MedsCheck Annual and has been discharged from hospital in the previous 2 weeks.
MedsCheck Follow-up for Pharmacist Referral (93899982)	2007	$25	Meets criteria for MedsCheck Annual and significant medication changes, documented non-compliance, or change in residence/pharmacy
MedsCheck Follow-up for MD/RN referral (93899983)	2007	$25	Meets criteria for MedsCheck Annual and has a physician or nurse practitioner referral
MedsCheck Follow-up for hospital admission (93899984)	2007	$25	Meets criteria for MedsCheck Annual and has a planned hospital admission.
MedsCheck Diabetes Annual Assessment (93899988)	2010	$75	Living with type 1 or 2 diabetes mellitus
MedsCheck Diabetes Follow-up Assessment (93899989)	2010	$25	Living with type 1 or 2 diabetes mellitus
MedsCheck Annual at Home (93899987)	2010	$150	Meets criteria for MedsCheck Annual and the patient is home bound, not able to physically attend the pharmacy due to physical/mental incapacity

* $50 before 2010

eTable 3. Community pharmacy-dispensed medications with high risk for adverse drug events*

Drug classes/drugs
Oral hypoglycemic agents[1]
Insulin[1]
Anticoagulants (warfarin, direct oral anticoagulants, low molecular weight heparins)[1-3]
Digoxin[2]
Beta blockers[2]
Diuretics[2]
Non-steroidal anti-inflammatories (NSAIDs)[1,2]
Oral glucocorticoids & synthetic analogues[1,2]
Opioids[1-3]
Antipsychotics[2]
Methotrexate (oral only) [1]
Antiretroviral agents (all oral) [1]
Chemotherapeutic/immunosuppressive agents (all oral) [1-3]

*Exclusions: parenteral, nasal, ophthalmologic or otic solutions, as well as topical forms.

eTable 4. ICD-10-CA diagnosis codes related to adverse drug reactions[3]

D Diseases of the blood	D52.1	Drug-induced folate deficiency anemia
	D59.0	Drug-induced autoimmune hemolytic anemia
	D59.2	Drug-induced nonautoimmune hemolytic anemia
	D61.1	Drug-induced aplastic anemia
	D64.2	Secondary sideroblastic anemia due to drugs or toxins
	D68.3	Hemorrhagic disorder due to circulating anticoagulants
	D89.3	Immune reconstitution syndrome
E Endocrine, nutritional and metabolic diseases	E03.2	Hypothyroidism due to medicaments and other exogenous substances
	E06.4	Drug-induced thyroiditis
	E16.0	Drug-induced hypoglycemia without coma
	E23.1	Drug-induced hypopituitarism
	E24.2	Drug-induced Cushing's syndrome
	E27.3	Drug-induced adrenocortical insufficiency
	E66.1	Drug-induced obesity
F Mental and behavioral disorders	F11	Mental disorders due to opioids
	F13	Mental and behavioral disorders due to use of sedatives or hypnotics
	F19	Mental and behavioral disorders due to multiple drug use and use of other psychoactive substances
G Diseases of the nervous system	G21.0	Malignant neuroleptic syndrome
	G21.1	Other drug-induced secondary parkinsonism
	G24.0	Drug-induced dystonia
	G25.1	Drug-induced tremor
	G25.4	Drug-induced chorea
	G25.6	Drug-induced tics
	G44.4	Drug-induced headache, not elsewhere classified
	G62.0	Drug-induced polyneuropathy
	G72.0	Drug-induced myopathy
H Diseases of the eye and ears	H26.3	Drug-induced cataract
	H 40.6	Glaucoma secondary to drugs
	H91.0	Ototoxic hearing loss
I Diseases of the circulatory system	I42.7	Cardiomyopathy due to drugs and other external agents
	I95.2	Hypotension due to drugs

eTable 4. (continued). ICD-10-CA diagnosis codes related to adverse drug reactions

J Diseases of the respiratory system	J70.2	Acute drug-induced interstitial lung disorders
	J70.3	Chronic drug-induced interstitial lung disorders
	J70.4	Drug-induced interstitial lung disorders, unspecified
K Diseases of the digestive system	K71^	Toxic liver disease
	K85.3	Drug-induced acute pancreatitis
L Diseases of the skin and subcutaneous tissue	L10.5	Drug-induced pemphigus
	L23.3	Irritant contact dermatitis due to drugs in contact with skin
	L24.4	Irritant contact dermatitis due to drugs in contact with skin
	L25.1	Unspecified contact dermatitis due to drugs in contact with skin
	L27.0	Generalized skin eruptions due to drugs and medicaments
	L27.1	Localized skin eruptions due to drugs and medicaments
	L43.2	Lichenoid drug reaction
	L51.2	Toxic epidermal necrolysis (Lyell's Syndrome)
	L56.0	Drug phototoxic response
	L56.1	Drug photoallergic response
M Diseases of the musculoskeletal system	M02.2	Postimmunization arthropathy
	M10.2^	Drug-induced gout
	M32.0	Drug-induced systemic lupus erythematosus
	M34.2	Systemic sclerosis induced by drugs and chemicals
	M80.4^	Drug-induced osteoporosis with pathological fracture
	M81.4	Drug-induced osteoporosis without pathological fracture
	M83.5	Other drug-induced osteomalacia in adults
	M87.1^	Osteonecrosis due to drugs
N Diseases of the genitourinary system	N14.0	Analgesic nephropathy
	N14.1	Nephropathy induced by other drugs, medicaments and biological substances
	N14.2	Nephropathy induced by unspecified drugs, medicaments and biological substances
	R50.2	Drug-induced fever
T Injuries and consequences of external causes	T80.5	Complications following infusion, transfusion and therapeutic injection: anaphylactic shock due to serum
	T80.6	Complications following infusion, transfusion and therapeutic injection: other serum reactions
	T80.8	Other complications following infusion, transfusion and therapeutic injection
	T80.9	Unspecified complication following infusion, transfusion and therapeutic injection
	T88.0	Infection following immunization
	T88.1	Infection complications following immunization
	T88.6	Anaphylactic shock due to adverse effect of correct drug or medicament properly administered
	T88.7	Unspecified adverse event of drug or medicament

eTable 5. ICD-10-CA diagnosis codes of 'external cause' for adverse drug reactions[3]

Y40	**Systemic antibiotics**: Penicillins, cefalosporins and other beta-lactam antibiotics, chloramphenicol, macrolides, tetracyclines, aminoglycosides, rifamycins, antifungals, others
Y41	**Other systemic anti-infectives and antiparasitics:** Sulphonamides, other anti-mycobacterial, anti-malarials, anti-protozoal, antihelminthics, anti-virals
Y42	**Hormones and substitutes:** Glucocorticoids, thyroid hormones, anti-thyroids, insulin, oral hypoglycaemics, oral contraceptives, oestrogen and progestogen, anti-gonadotrophins, anti-oestrogens, anti-progestogens, androgens
Y43	**Systemic agents:** Anti-allergic and anti-emetic drugs, anti-neoplastic and immunosuppressive drugs, acidifying/alkalising agents
Y44	**Agents affecting blood constituents:** Iron preparations, anti-megaloblastic-anemia preparations, anticoagulants, anticoagulant antagonists, antithrombotic drugs, thrombolytic drugs, blood products, plasma substitutes
Y45	**Analgesics, anti-pyretics and anti-inflammatory drugs:** Opioids and related analgesics, salicylates, propionic acid derivatives, nonsteroidal anti-inflammatory drugs, antirheumatics, 4-aminophenol derivatives
Y46	**Anti-epileptics and anti-parkinsonism drugs:** Succinimides, oxazolidinediones, hydantoin derivatives, deoxybarbiturates, iminostilbenes, valproic acid, anti-parkinsonism drugs, anti-spasticity drugs
Y47	**Sedatives, hypnotics and anti-anxiety drugs: Barbiturates, benzodiazepines, cloral derivatives, paraldehyde, bromine compounds, sedative, hypnotic and antianxiety drug, unspecified**
Y48	**Anesthetics and therapeutic gases:** Inhaled/parenteral anesthetics, local anesthetics, therapeutic gases
Y49	**Psychotropic drugs:** Tricyclic and tetracyclic antidepressants, monoamine-oxidase-inhibitor, phenothiazine antipsychotics and neuroleptics, butyrophenone and thioxanthene neuroleptics, other antidepressants, antipsychotics and neuroleptics
Y50	**Central nervous system stimulants:** Analeptics, opioid receptor antagonists, methylxanthines, other central nervous system stimulants
Y51	**Drugs primarily affecting the autonomic nervous system:** Anticholinesterase agents, cholinergics, ganglionic blocking drugs, anticholinergics, antimuscarinics, spasmolytics, alpha-adrenoreceptor agonists/antagonists, beta-adrenoreceptor agonists/antagonists, centrally acting and adrenergic-neuron-blocking agents
Y52	**Agents affecting the cardiovascular system:** Cardiac-stimulant glycosides, calcium-channel blockers, other anti-dysrhythmic drugs, other coronary vasodilators, angiotensin-converting-enzyme inhibitors, other anti-hypertensives, anti-hyperlipidemic and antiarteriosclerotic drugs, peripheral vasodilators, anti-varicose drugs
Y53	**Agents affecting the gastrointestinal system:** Antacids, anti-gastric-secretion drugs, laxatives, anti-diarrheal, emetics
Y54	**Agents affecting water-balance and mineral and uric acid metabolism:** Mineralocorticoids, mineralocorticoid antagonists, carbonic-anhydrase inhibitors, benzothiadiazine derivatives, other diuretics, electrolytic, caloric and water-balance agents, agents affecting calcification, agents affecting uric acid metabolism

eTable 5. (continued). ICD-10-CA diagnosis codes of '*external cause*' for adverse drug reactions

Y55	**Agents acting on smooth and skeletal muscles and the respiratory system:** Oxytocic drugs, skeletal muscle relaxants, antitussives, expectorants, anti-common-cold drugs, anti-asthmatics
Y56	**Topical agents primarily affecting skin and mucous membrane:** Local anti-fungal, anti-infective, anti-inflammatory drugs, antipruritics, local detergents, emollients, keratolytics, ophthalmological drugs, otorhinolaryngological drugs, dental drugs
Y57	**Other and unspecified drugs:** Appetite depressants, lipotropic drugs, antidotes and chelating agents, alcohol deterrents, x-ray contrast media, vitamins
Y58	**Bacterial vaccines**
Y59	**Other vaccines:** Viral/rickettsial/protozoal vaccines, immunoglobulin

eTable 6. Comparison of characteristics of patients excluded due to an outcome date occurring prior to the MedsCheck eligibility date. Std. Diff.= standardized difference.

Patients who reached an outcome before eligibility were more likely to be male, had a shorter hospital stay, and were more likely to have been discharged against medical advice or without home care support services.

Characteristic	Excluded N=29,763	Not Excluded N=1,810,525	Std. Diff. of Means
Year of hospital discharge, median (IQR)	2,012 (2,010-2,014)	2,012 (2,009-2,014)	0.1
Age at hospital discharge, median (IQR)	77 (71-83)	77 (71-83)	0.03
Female sex, n (%)	13,486 (45.3)	921,830 (50.9)	0.11
Rural residence, n (%)	5,658 (19.0)	300,099 (16.6)	0.06
Does not speak French or English, n (%)	738 (2.5%)	54,654 (3.0)	0.03
Charlson comorbidity score, n (%)			
0	8,040 (27.0)	491,579 (27.2)	0
1	5,909 (19.9)	401,141 (22.2)	0.06
2	5,517 (18.5)	332,165 (18.3)	0
3	3,839 (12.9)	231,799 (12.8)	0
4+	6,458 (21.7)	353,841 (19.5)	0.05
Nearest Census Based Neighbourhood Income Quintile, n (%)			
Missing	165 (0.6)	7,679 (0.4)	0.02
1	6,825 (22.9)	386,542 (21.3)	0.04
2	6,131 (20.6)	378,609 (20.9)	0.01
3	5,639 (18.9)	358,205 (19.8)	0.02
4	5,704 (19.2)	351,101 (19.4)	0.01
5	5,299 (17.8)	328,389 (18.1)	0.01
Arrival by ambulance, n (%)	11,933 (40.1)	704,476 (38.9)	0.02
Elective admission, n (%)	5,172 (17.4)	410,441 (22.7)	0.13
Length of stay, median (IQR)	3 (1-6)	4 (2-8)	0.47
Discharged on a weekend, n (%)	12,630 (42.4)	685,662 (37.9)	0.09
Discharged against medical advice, n (%)	1,376 (4.6)	7,195 (0.4)	0.27
Discharged with homecare services, n (%)	8,585 (28.8)	663,668 (36.7)	0.17
Discharging hospital type, n (%)			
Teaching	8,521 (28.6)	519,287 (28.7)	0
Small community	1,809 (6.1)	87,371 (4.8)	0.06
Medium/large community	19,127 (64.3)	1,183,391 (65.4)	0.02
Rural	2,931 (9.8)	148,368 (8.2)	0.06

eTable 6. (continued). Comparison of characteristics of patients excluded due to an outcome date occurring prior to the MedsCheck eligibility date. Std. Diff.= standardized difference. NOS=not otherwise specified

Characteristic	Excluded N=29,763	Not Excluded N=1,810,525	Std. Diff. of Means
Most responsible diagnosis, n (%)			
1- Infectious Diseases	794 (2.7)	50,843 (2.8)	0.01
2- Neoplasms	2,270 (7.6)	137,683 (7.6)	0
3- Diseases of the blood	518 (1.7)	26,342 (1.5)	0.02
4- Endocrine	1,183 (4.0)	55,728 (3.1)	0.05
5- Mental and behavioural	567 (1.9)	28,791 (1.6)	0.02
6- Nervous system	530 (1.8)	29,580 (1.6)	0.01
7- Eye	61 (0.2)	2,364 (0.1)	0.02
8- Ear	54 (0.2)	4,090 (0.2)	0.01
9- Circulatory	6,858 (23.0)	445,131 (24.6)	0.04
10- Respiratory	2,486 (8.4)	224,082 (12.4)	0.13
11- Digestive	3,598 (12.1)	181,841 (10.0)	0.07
12- Skin	275 (0.9)	19,380 (1.1)	0.01
13- Musculoskeletal	1,291 (4.3)	170,320 (9.4)	0.2
14- Genitourinary	1,983 (6.7)	129,783 (7.2)	0.02
17- Congenital	10 (0.0)	690 (0.0)	0
18 – Symptoms and findings NOS	4,336 (14.6)	145,553 (8.0)	0.21
19 - Injury/Poisoning	1,894 (6.4)	102,312 (5.7)	0.03
21- Factors influencing health status	1,055 (3.5)	56,010 (3.1)	0.03
Homecare support services in previous year, n (%)	5,567 (18.7)	323,275 (17.9)	0.02
At least one physician home visit in previous year, n (%)	2,078 (7.0)	124,396 (6.9)	0
Outpatient physician visits in previous year, median (IQR)	14 (8-21)	13 (8-20)	0.12
Dementia diagnosis or medication in previous year, n (%)	2,667 (9.0)	155,036 (8.6)	0.01
MedsCheck in previous year, n (%)	11,587 (38.9)	625,749 (34.6)	0.09
Emergency department visits in previous 6 months, median (IQR)	1 (0-3)	1 (0-2)	0.27
Pharmacies visited in previous year, median (IQR)	1 (1-2)	1 (1-2)	0.1
Outpatient physicians seen in previous year, median (IQR)	5 (3-8)	5 (3-7)	0.1
At least one elective hospitalization in previous year, n (%)	3,597 (12.1)	192,815 (10.6)	0.05
At least one urgent hospitalization in previous year, n (%)	13,041 (43.8)	656,241 (36.2)	0.15
At least one adverse drug reaction in previous year, n (%)	3,512 (11.8)	167,987 (9.3)	0.08
Number of meds in previous year, median (IQR)	13 (9-18)	12 (8-17)	0.17
Number of high risk medications in previous year, median (IQR)	3 (2-5)	3 (2-5)	0.1
Number of potentially inappropriate medications in previous year, median (IQR)	1 (0-1)	1 (0-1)	0.06
Number of new medications filled after discharge, median (IQR)	1 (0-1)	1 (0-2)	0.44
At least one new high risk medication filled, n (%)	7,079 (23.8)	710,014 (39.2)	0.34
At least one new potentially inappropriate medication filled, n (%)	1,318 (4.4)	95,291 (5.3)	0.04
New pharmacy, n (%)	2,705 (9.1)	174,830 (9.7)	0.02

eTable 7. Comparison of characteristics of patients excluded because of MedsCheck receipt before MedsCheck eligibility. Std. Diff.= standardized difference.

Characteristic	Excluded N=2,748	Not Excluded N=1,807,777	Std. Diff. of Means
Year of hospital discharge, median (IQR)	2,013 (2,012-2,015)	2,012 (2,009-2,014)	0.53
Age at hospital discharge, median (IQR)	79 (73-85)	77 (71-83)	0.2
Female sex, n (%)	1,404 (51.1)	920,426 (50.9)	0
Rural residence, n (%)	488 (17.8)	299,611 (16.6)	0.03
Does not speak French or English, n (%)	69 (2.5)	54,585 (3.0)	0.03
Charlson comorbidity score, n (%)			
0	607 (22.1)	490,972 (27.2)	0.12
1	574 (20.9)	400,567 (22.2)	0.03
2	542 (19.7)	331,623 (18.3)	0.04
3	395 (14.4)	231,404 (12.8)	0.05
4+	630 (22.9)	353,211 (19.5)	0.08
Nearest Census-Based Neighbourhood Income Quintile, n (%)			
Missing	17 (0.6)	7,662 (0.4)	0.03
1	611 (22.2)	385,931 (21.3)	0.02
2	605 (22.0)	378,004 (20.9)	0.03
3	556 (20.2)	357,649 (19.8)	0.01
4	498 (18.1)	350,603 (19.4)	0.03
5	461 (16.8)	327,928 (18.1)	0.04
Arrival by ambulance, n (%)	1,299 (47.3)	703,177 (38.9)	0.17
Elective admission, n (%)	314 (11.4)	410,127 (22.7)	0.3
Length of stay, median (IQR)	5 (3-10)	4 (2-8)	0.11
Most responsible diagnosis, n (%)			
1- Infectious Diseases	91 (3.3)	50,752 (2.8)	0.03
2- Neoplasms	134 (4.9)	137,549 (7.6)	0.11
3- Diseases of the blood	54 (2.0)	26,288 (1.5)	0.04
4- Endocrine	140 (5.1)	55,588 (3.1)	0.1
5- Mental and behavioural	81 (2.9)	28,710 (1.6)	0.09
6- Nervous system	80 (2.9)	29,500 (1.6)	0.09
8- Ear	13 (0.5)	4,077 (0.2)	0.04
9- Circulatory	708 (25.8)	444,423 (24.6)	0.03
10- Respiratory	241 (8.8)	223,841 (12.4)	0.12
11- Digestive	295 (10.7)	181,546 (10.0)	0.02
12- Skin	14 (0.5)	19,366 (1.1)	0.06
13- Musculoskeletal	120 (4.4)	170,200 (9.4)	0.2
14- Genitourinary	162 (5.9)	129,621 (7.2)	0.05
18 – Symptoms and findings NOS	367 (13.4)	145,186 (8.0)	0.17
19 - Injury/Poisoning	121 (4.4)	102,191 (5.7)	0.06
21- Factors influencing health status	119 (4.3)	55,891 (3.1)	0.07

eTable 7. (continued). Comparison of characteristics of patients excluded because of MedsCheck receipt before MedsCheck eligibility. Std. Diff.= standardized difference. NOS=not otherwise specified

Characteristic	Excluded N=2,748	Not Excluded N=1,807,777	Std. Diff. of Means
Discharged on a weekend, n (%)	1,051 (38.2)	684,611 (37.9)	0.01
Discharged against medical advice, n (%)	11 (0.4)	7,184 (0.4)	0
Discharged with homecare services, n (%)	1,219 (44.4)	662,449 (36.6)	0.16
Discharging hospital type, n (%) Teaching Small community Medium/large community Rural	762 (27.7) 194 (7.1) 1,743 (63.4) 305 (11.1)	518,525 (28.7) 87,177 (4.8) 1,181,648 (65.4) 148,063 (8.2)	0.02 0.09 0.04 0.1
Homecare support services in previous year, n (%)	663 (24.1)	322,612 (17.8)	0.15
At least one physician home visit in previous year, n (%)	201 (7.3)	124,195 (6.9)	0.02
Outpatient physician visits in previous year, median (IQR)	13 (8-20)	13 (8-20)	0.01
Dementia diagnosis or medication in previous year, n (%)	344 (12.5)	154,692 (8.6)	0.13
MedsCheck in previous year, n (%)	1,568 (57.1)	624,181 (34.5)	0.46
Emergency department visits in previous 6 months, median (IQR)	1 (0-2)	1 (0-2)	0.18
Pharmacies visited in previous year, median (IQR)	1 (1-2)	1 (1-2)	0.03
Outpatient physicians seen in previous year, median (IQR)	5 (3-8)	5 (3-7)	0.05
At least one elective hospitalization in previous year, n (%)	271 (9.9)	192,544 (10.7)	0.03
At least one urgent hospitalization in previous year, n (%)	1,180 (42.9)	655,061 (36.2)	0.14
At least one adverse drug reaction in previous year, n (%)	365 (13.3)	167,622 (9.3)	0.13
Number of medications in previous year, median (IQR)	14 (10-19)	12 (8-17)	0.34
Number of high risk medications in previous year, median (IQR)	4 (2-5)	3 (2-5)	0.26
Number of potentially inappropriate medications in previous year, median (IQR)	1 (0-1)	1 (0-1)	0
Number of new medications filled after discharge, median (IQR)	0 (0-1)	1 (1-2)	0.85
At least one new high risk medication filled, n (%)	414 (15.1)	709,600 (39.3)	0.57
At least one new potentially inappropriate medication filled, n (%)	80 (2.9)	95,211 (5.3)	0.12
New pharmacy, n (%)	121 (4.4)	174,709 (9.7)	0.21

eTable 8. Comparison of all patients receiving a MedsCheck to those who did not receive a MedsCheck but were eligible. Std. Diff.= standardized difference.

Patients receiving a MedsCheck differed from those not receiving a MedsCheck. The greatest differences were in the median year of discharge (MedsCheck 2013 vs 2011, Std Diff 66%), the proportion with a Charlson score of 0 (MedsCheck 27.8% vs 38.3%, Std Diff 22%), the proportion for whom the index admission was elective (MedsCheck 15.9% vs 30.1%, Std Diff 34%), the median length of hospital stay (MedsCheck 5 days vs 4 days, Std Diff 28%). In addition, other major differences included the proportion admitted for a circulatory condition (MedsCheck 44.2% vs 23.6%, Std Diff 45%) or musculoskeletal condition (MedsCheck 6.2% vs 12.9%, Std diff 23%), the median number of outpatient visits in the previous year (MedsCheck 10 vs 11, Std diff 22%), the median number of new medications filled after discharge (MedsCheck 3 vs 1, Std diff 62%), the proportion with a new high risk medication filled after discharge (MedsCheck 59.5% vs 46.7%, Std Diff 26%) and the proportion filling their prescription at a pharmacy in the highest MedsCheck volume quartile (MedsCheck 42.0% vs 16.8%, Std diff 57%).

Characteristic	Received MedsCheck N=77,459	Did not receive MedsCheck N=802,038	Std. Diff. of Means
Year of hospital discharge, median (IQR)	2,013 (2,011-2,015)	2,011 (2,008-2,013)	0.66
Age at hospital discharge, median (IQR)	76 (70-82)	76 (70-82)	0.02
Female sex, n (%)	36,638 (47.3)	418,645 (52.2)	0.1
Rural residence, n (%)	10,991 (14.2)	128,041 (16.0)	0.05
Does not speak French or English, n (%)	3,110 (4.0)	26,081 (3.3)	0.04
Charlson comorbidity score, n (%)			
0	21,511 (27.8)	306,910 (38.3)	0.22
1	23,470 (30.3)	195,190 (24.3)	0.13
2	13,767 (17.8)	140,578 (17.5)	0.01
3	10,228 (13.2)	75,634 (9.4)	0.12
4+	8,483 (11.0)	83,726 (10.4)	0.02
Nearest Census Based Neighborhood Income Quintile, n (%)			
Missing	265 (0.3)	2,904 (0.4)	0
1	15,266 (19.7)	162,114 (20.2)	0.01
2	16,242 (21.0)	166,826 (20.8)	0
3	15,274 (19.7)	158,955 (19.8)	0
4	15,719 (20.3)	158,173 (19.7)	0.01
5	14,693 (19.0)	153,066 (19.1)	0
Arrival by ambulance, n (%)	30,398 (39.2)	258,491 (32.2)	0.15
Elective admission, n (%)	12,305 (15.9)	241,022 (30.1)	0.34
Length of stay, median (IQR)	5 (3-9)	4 (2-8)	0.28

eTable 8. (continued). Comparison of all patients receiving a MedsCheck to those who did not receive a MedsCheck but were eligible. Std. Diff.= standardized difference. NOS=not otherwise specified

Characteristic	Received MedsCheck N=77,459	Did not receive MedsCheck N=802,038	Std. Diff. of Means
Most responsible diagnosis, n (%)			
1- Infectious Diseases	1,670 (2.2)	17,371 (2.2)	0
2- Neoplasms	4,051 (5.2)	77,779 (9.7)	0.17
3- Diseases of the blood	812 (1.0)	9,687 (1.2)	0.02
4- Endocrine	2,476 (3.2)	22,107 (2.8)	0.03
5- Mental and behavioral	1,196 (1.5)	10,962 (1.4)	0.01
6- Nervous system	1,656 (2.1)	13,860 (1.7)	0.03
7- Eye	72 (0.1)	1,407 (0.2)	0.02
8- Ear	160 (0.2)	2,123 (0.3)	0.01
9- Circulatory	34,200 (44.2)	189,090 (23.6)	0.45
10- Respiratory	7,437 (9.6)	75,369 (9.4)	0.01
11- Digestive	4,914 (6.3)	81,681 (10.2)	0.14
12- Skin	548 (0.7)	7,226 (0.9)	0.02
13- Musculoskeletal	4,839 (6.2)	103,480 (12.9)	0.23
14- Genitourinary	3,577 (4.6)	58,982 (7.4)	0.12
17- Congenital	39 (0.1)	383 (0.0)	0
18 – Symptoms and findings NOS	5,091 (6.6)	58,448 (7.3)	0.03
19 - Injury/Poisoning	2,628 (3.4)	46,377 (5.8)	0.11
21- Factors influencing health status	2,093 (2.7)	25,706 (3.2)	0.03
Discharged on a weekend, n (%)	28,305 (36.5)	312,971 (39.0)	0.05
Discharged against medical advice, n (%)	217 (0.3)	3,049 (0.4)	0.02
Discharged with homecare services, n (%)	23,751 (30.7)	253,041 (31.5)	0.02
Discharging hospital type, n (%)			
Teaching	20,523 (26.5)	235,073 (29.3)	0.06
Small community	3,006 (3.9)	31,941 (4.0)	0.01
Medium/large community	52,122 (67.3)	524,910 (65.4)	0.04
Rural	4,953 (6.4)	55,943 (7.0)	0.02
Homecare support services in previous year, n (%)	5,607 (7.2)	76,535 (9.5)	0.08
At least one physician home visit in previous year, n (%)	2,438 (3.1)	35,486 (4.4)	0.07
Outpatient physician visits in previous year, median (IQR)	10 (5-15)	11 (7-17)	0.22

eTable 8. (continued). Comparison of all patients receiving a MedsCheck to those who did not receive a MedsCheck but were eligible. Std. Diff.= standardized difference.

Characteristic	Received MedsCheck N=77,459	Did not receive MedsCheck N=802,038	Std. Diff. of Means
Dementia diagnosis or medication in previous year, n (%)	4,645 (6.0)	54,813 (6.8)	0.03
MedsCheck in previous year, n (%)	30,833 (39.8)	207,287 (25.8)	0.3
Emergency department visits in previous 6 months, median (IQR)	0 (0-1)	0 (0-1)	0.01
Pharmacies visited in previous year, median (IQR)	1 (1-2)	1 (1-2)	0.1
Outpatient physicians seen in previous year, median (IQR)	4 (3-6)	5 (3-7)	0.1
At least one elective hospitalization in previous year, n (%)	2,234 (2.9)	33,443 (4.2)	0.07
At least one urgent hospitalization in previous year, n (%)	6,804 (8.8)	85,467 (10.7)	0.06
At least one adverse drug reaction in previous year, n (%)	5,077 (6.6)	44,320 (5.5)	0.04
Number of medications in previous year, median (IQR)	9 (6-13)	9 (6-13)	0.14
Number of high risk medications in previous year, median (IQR)	2 (1-4)	2 (1-4)	0.07
Number of potentially inappropriate medications in previous year, median (IQR)	0 (0-1)	1 (0-1)	0.15
Number of new medications filled after discharge, median (IQR)	3 (1-4)	1 (1-2)	0.62
At least one new high risk medication filled, n (%)	46,095 (59.5)	374,441 (46.7)	0.26
At least one new potentially inappropriate medication filled, n (%)	5,599 (7.2)	45,372 (5.7)	0.06
New pharmacy, n (%)	7,605 (9.8)	97,934 (12.2)	0.08
Pharmacy MedsCheck/total volume quartile, n (%)			
1	5,164 (6.7)	260,634 (32.5)	0.69
2	16,220 (20.9)	220,301 (27.5)	0.15
3	23,578 (30.4)	186,468 (23.2)	0.16
4	32,497 (42.0)	134,635 (16.8)	0.57

Lapointe-Shaw L, *et al. BMJ Qual Saf* 2019; 29:41–51. doi: 10.1136/bmjqs-2019-009545

eTable 9. Characteristics of matched and unmatched MedsCheck recipients. Std. Diff.= standardized difference.

Unmatched patients who received MedsCheck were less likely to have filled a prescription for a new high risk medication (matched 62.2% vs unmatched 41.8%, Std diff 42%), had filled fewer new medications after discharge (median in matched 3 vs unmatched 2, Std diff 22%), were less likely to have a diagnosis of a circulatory condition (matched 45.0% vs unmatched 38.6%, Std diff 13%), and were more likely to have a diagnosis of non-specific signs and symptoms (matched 6.0% vs unmatched 10.6%, Std diff 17%).

Characteristic	Matched N=67,163	Unmatched N=10,296	Std. Diff. of Means
Year of hospital discharge, median (IQR)	2,013 (2,011-2,015)	2,013 (2,011-2,015)	0.04
Age at hospital discharge, median (IQR)	76 (70-82)	76 (70-83)	0.04
Female sex, n (%)	31,554 (47.0)	5,084 (49.4)	0.05
Rural residence, n (%)	9,455 (14.1)	1,536 (14.9)	0.02
Does not speak French or English, n (%)	2,688 (4.0)	422 (4.1)	0
Charlson comorbidity score, n (%)			
0	18,379 (27.4)	3,132 (30.4)	0.07
1	20,460 (30.5)	3,010 (29.2)	0.03
2	11,942 (17.8)	1,825 (17.7)	0
3	9,005 (13.4)	1,223 (11.9)	0.05
4+	7,377 (11.0)	1,106 (10.7)	0.01
Nearest Census Based Neighbourhood Income Quintile, n (%)			
Missing	230 (0.3)	35 (0.3)	0
1	13,244 (19.7)	2,022 (19.6)	0
2	14,047 (20.9)	2,195 (21.3)	0.01
3	13,270 (19.8)	2,004 (19.5)	0.01
4	13,665 (20.3)	2,054 (19.9)	0.01
5	12,707 (18.9)	1,986 (19.3)	0.01
Arrival by ambulance, n (%)	26,259 (39.1)	4,139 (40.2)	0.02
Elective admission, n (%)	10,805 (16.1)	1,500 (14.6)	0.04
Length of stay, median (IQR)	5 (3-9)	5 (3-9)	0.01
Most responsible diagnosis of heart failure, n (%)	4,210 (6.3)	625 (6.1)	0.01
Most responsible diagnosis of chronic obstructive pulmonary disease, n (%)	3,084 (4.6)	415 (4.0)	0.03
Discharged on a weekend, n (%)	24,534 (36.5)	3,771 (36.6)	0
Discharged against medical advice, n (%)	191 (0.3)	26 (0.3)	0.01
Discharged with homecare services, n (%)	20,493 (30.5)	3,258 (31.6)	0.02

eTable 9. (continued). Characteristics of matched and unmatched MedsCheck recipients. Std. Diff.= standardized difference. NOS=not otherwise specified.

Characteristic	Matched N=67,163	Unmatched N=10,296	Std. Diff. of Means
Most responsible diagnosis, n (%)			
1- Infectious Diseases	1,414 (2.1)	256 (2.5)	0.03
2- Neoplasms	3,561 (5.3)	490 (4.8)	0.02
3- Diseases of the blood	685 (1.0)	127 (1.2)	0.02
4- Endocrine	2,120 (3.2)	356 (3.5)	0.02
5- Mental and behavioural	1,051 (1.6)	145 (1.4)	0.01
6- Nervous system	1,424 (2.1)	232 (2.3)	0.01
7- Eye	65 (0.1)	7 (0.1)	0.01
8- Ear	128 (0.2)	32 (0.3)	0.02
9- Circulatory	30,223 (45.0)	3,977 (38.6)	0.13
10- Respiratory	6,452 (9.6)	985 (9.6)	0
11- Digestive	4,171 (6.2)	743 (7.2)	0.04
12- Skin	461 (0.7)	87 (0.8)	0.02
13- Musculoskeletal	4,264 (6.3)	575 (5.6)	0.03
14- Genitourinary	3,008 (4.5)	569 (5.5)	0.05
18 – Symptoms and findings NOS	3,998 (6.0)	1,093 (10.6)	0.17
19 - Injury/Poisoning	2,276 (3.4)	352 (3.4)	0
21- Factors influencing health status	1,826 (2.7)	267 (2.6)	0.01
Discharging hospital type, n (%)			
Teaching	18,001 (26.8)	2,522 (24.5)	0.05
Small community	2,530 (3.8)	476 (4.6)	0.04
Medium/large community	44,997 (67.0)	7,125 (69.2)	0.05
Rural	4,186 (6.2)	767 (7.4)	0.05
Homecare support services in previous year, n (%)	4,772 (7.1)	835 (8.1)	0.04
At least one physician home visit in previous year, n (%)	2,094 (3.1)	344 (3.3)	0.01
Outpatient physician visits in previous year, median (IQR)	10 (5-15)	10 (5-15)	0.02
Dementia diagnosis or medication in previous year, n (%)	3,911 (5.8)	734 (7.1)	0.05
MedsCheck in previous year, n (%)	26,790 (39.9)	4,043 (39.3)	0.01
Emergency department visits in previous 6 months, median (IQR)	0 (0-1)	0 (0-1)	0.05
Pharmacies visited in previous year, median (IQR)	1 (1-2)	1 (1-2)	0.01
Outpatient physicians seen in previous year, median (IQR)	4 (3-6)	4 (3-6)	0.02
At least one elective hospitalization in previous year, n (%)	1,925 (2.9)	309 (3.0)	0.01
At least one urgent hospitalization in previous year, n (%)	5,887 (8.8)	917 (8.9)	0

eTable 9. (continued). Characteristics of matched and unmatched MedsCheck recipients. Std. Diff.= standardized difference.

Characteristic	Matched N=67,163	Unmatched N=10,296	Std. Diff. of Means
At least one adverse drug reaction in previous year, n (%)	4,317 (6.4)	760 (7.4)	0.04
Number of medications in previous year, median (IQR)	9 (5-13)	9 (6-13)	0.05
Number of high risk medications in previous year, median (IQR)	2 (1-4)	2 (1-4)	0.04
Number of potentially inappropriate medications in previous year, median (IQR)	0 (0-1)	0 (0-1)	0.03
Number of new medications filled after discharge, median (IQR)	3 (1-4)	2 (1-4)	0.22
At least one new high risk medication filled, n (%)	41,792 (62.2)	4,303 (41.8)	0.42
At least one new potentially inappropriate medication filled, n (%)	4,910 (7.3)	689 (6.7)	0.02
New pharmacy, n (%)	6,627 (9.9)	978 (9.5)	0.01
Pharmacy MedsCheck/total volume quartile, n (%)			
1	4,412 (6.6)	752 (7.3)	0.03
2	13,808 (20.6)	2,412 (23.4)	0.07
3	20,358 (30.3)	3,220 (31.3)	0.02
4	28,585 (42.6)	3,912 (38.0)	0.09

eTable 10. Outcome comparison in the matched sample at 30 days, for patients not filling a prescription for a new high risk medication after discharge subgroups. ED=emergency department

	MedsCheck, n (%) Total N=25,371	**Controls, n (%) Total N=25,371**	**Risk Difference, % (95% CI)**	**Hazard Ratio (95% CI)**
Death or readmission	5,653 (22.3)	5,507 (21.7)	0.6 (-0.2-1.3)	1.03 (0.99-1.07)
Death	394 (1.6)	482 (1.9)	0.4 (0.1-0.6)	0.82 (0.71-0.93)
Re-hospitalization	2,731 (10.8)	2,682 (10.6)	0.2 (-0.3-0.7)	1.02 (0.96-1.07)
Return to ED	5,444 (21.5)	5,248 (20.7)	0.8 (0.1-1.5)	1.04 (1.00-1.08) P= 0.052
Secondary Outcomes				
Adverse drug event	311 (1.2)	322 (1.3)	0.0 (-0.2-0.2)	0.97 (0.83-1.13)
30-day count of outpatient physician visits, median (IQR)	2 (1-3)	2 (1-3)	-	1.02 (1.00-1.03) P= 0.032

eTable 11. Comparison of all patients early (≤2 days) MedsCheck recipients and controls to late (>2 days) MedsCheck recipients and controls. Std. Diff.= standardized difference.

Characteristic	Early N=103,150	Late N=31,176	Std. Diff. of Means
Year of hospital discharge, median (IQR)	2,013 (2,011-2,015)	2,013 (2,010-2,014)	0.17
Age at hospital discharge, median (IQR)	76 (70-82)	76 (70-83)	0.03
Female sex, n (%)	47,726 (46.3)	15,217 (48.8)	0.05
Rural residence, n (%)	15,109 (14.6)	4,018 (12.9)	0.05
Does not speak French or English, n (%)	3,953 (3.8)	1,250 (4.0)	0.01
Charlson comorbidity score, n (%)			
0	26,520 (25.7)	9,497 (30.5)	0.11
1	32,943 (31.9)	8,876 (28.5)	0.08
2	17,958 (17.4)	5,628 (18.1)	0.02
3	14,402 (14.0)	3,903 (12.5)	0.04
4+	11,327 (11.0)	3,272 (10.5)	0.02
Nearest Census Based Neighbourhood Income Quintile, n (%)			
Missing	339 (0.3)	121 (0.4)	0.01
1	20,040 (19.4)	6,327 (20.3)	0.02
2	21,639 (21.0)	6,518 (20.9)	0
3	20,380 (19.8)	6,187 (19.8)	0
4	21,107 (20.5)	6,182 (19.8)	0.02
5	19,645 (19.0)	5,841 (18.7)	0.01
Arrival by ambulance, n (%)	40,982 (39.7)	11,915 (38.2)	0.03
Elective admission, n (%)	15,470 (15.0)	5,408 (17.3)	0.06
Length of stay, median (IQR)	5 (3-10)	5 (3-8)	0.19
Most responsible diagnosis of heart failure, n (%)	6,612 (6.4)	1,808 (5.8)	0.03
Most responsible diagnosis of chronic obstructive pulmonary disease, n (%)	4,814 (4.7)	1,354 (4.3)	0.02
Discharged on a weekend, n (%)	36,163 (35.1)	12,312 (39.5)	0.09
Discharged against medical advice, n (%)	238 (0.2)	100 (0.3)	0.02
Discharged with homecare services, n (%)	31,346 (30.4)	9,290 (29.8)	0.01
Discharging hospital type, n (%)			
Teaching	27,533 (26.7)	8,934 (28.7)	0.04
Small community	4,042 (3.9)	1,081 (3.5)	0.02
Medium/large community	68,650 (66.6)	20,599 (66.1)	0.01
Rural	6,641 (6.4)	1,855 (6.0)	0.02
Homecare support services in previous year, n (%)	6,789 (6.6)	2,613 (8.4)	0.07
At least one physician home visit in previous year, n (%)	2,988 (2.9)	1,146 (3.7)	0.04
Outpatient physician visits in previous year, median (IQR)	9 (5-15)	10 (6-16)	0.15
Dementia diagnosis or medication in previous year, n (%)	5,776 (5.6)	1,949 (6.3)	0.03
MedsCheck in previous year, n (%)	40,581 (39.3)	11,536 (37.0)	0.05

eTable 11. (continued). Comparison of all patients early (≤2 days) MedsCheck recipients and controls to late (>2 days) MedsCheck recipients and controls. Std. Diff.= standardized difference.

Characteristic	Early N=103,150	Late N=31,176	Std. Diff. of Means
Most responsible diagnosis, n (%)			
1- Infectious Diseases	2,064 (2.0)	749 (2.4)	0.03
2- Neoplasms	5,653 (5.5)	2,061 (6.6)	0.05
3- Diseases of the blood	987 (1.0)	369 (1.2)	0.02
4- Endocrine	2,718 (2.6)	944 (3.0)	0.02
5- Mental and behavioural	1,393 (1.4)	470 (1.5)	0.01
6- Nervous system	1,776 (1.7)	610 (2.0)	0.02
7- Eye	86 (0.1)	45 (0.1)	0.02
8- Ear	166 (0.2)	55 (0.2)	0
9- Circulatory	49,296 (47.8)	11,150 (35.8)	0.25
10- Respiratory	9,893 (9.6)	3,049 (9.8)	0.01
11- Digestive	6,359 (6.2)	2,641 (8.5)	0.09
12- Skin	692 (0.7)	231 (0.7)	0.01
13- Musculoskeletal	6,604 (6.4)	2,174 (7.0)	0.02
14- Genitourinary	4,174 (4.0)	1,735 (5.6)	0.07
17- Congenital	38 (0.0)	13 (0.0)	0
18 – Symptoms and findings NOS	5,316 (5.2)	2,680 (8.6)	0.14
19 - Injury/Poisoning	3,494 (3.4)	1,347 (4.3)	0.05
21- Factors influencing health status	2,441 (2.4)	853 (2.7)	0.02
Emergency department visits in previous 6 months, median (IQR)	0 (0-1)	0 (0-1)	0.05
Pharmacies visited in previous year, median (IQR)	1 (1-2)	1 (1-2)	0.1
Outpatient physicians seen in previous year, median (IQR)	4 (3-6)	4 (3-6)	0.07
At least one elective hospitalization in previous year, n (%)	2,811 (2.7)	1,043 (3.3)	0.04
At least one urgent hospitalization in previous year, n (%)	8,591 (8.3)	2,949 (9.5)	0.04
At least one adverse drug reaction in previous year, n (%)	6,609 (6.4)	1,979 (6.3)	0
Number of meds in previous year, median (IQR)	8 (5-12)	9 (6-13)	0.19
Number of high risk medications in previous year, median (IQR)	2 (1-4)	2 (1-4)	0.12
Number of potentially inappropriate medications in previous year, median (IQR)	0 (0-1)	0 (0-1)	0.1
Number of new medications filled after discharge, median (IQR)	3 (2-4)	2 (1-3)	0.49
At least one new high risk medication filled, n (%)	68,428 (66.3)	15,156 (48.6)	0.36
At least one new potentially inappropriate medication filled, n (%)	7,873 (7.6)	1,865 (6.0)	0.07
New pharmacy, n (%)	10,342 (10.0)	3,280 (10.5)	0.02

Lapointe-Shaw L, *et al. BMJ Qual Saf* 2019; 29:41–51. doi: 10.1136/bmjqs-2019-009545

eTable 12. Outcome comparison in the matched sample at 30 days, for patients receiving MedsCheck early (within first two days after discharge) and controls. ED=emergency department

	MedsCheck n (%), Total	**Controls n (%), Total**	**Risk Difference, % (95% CI)**	**Hazard Ratio (95% CI)**
Death or readmission	12,622 (24.5)	13,047 (25.3)	0.8 (0.3-1.4)	0.96 (0.94-0.98)
Death	900 (1.8)	1,141 (2.2)	0.5 (0.3-0.6)	0.79 (0.72-0.86)
Re-hospitalization	5,982 (11.6)	6,180 (12.0)	0.4 (-0.0-0.8)	0.96 (0.93-1.00) * p=0.04
Return to ED	12,162 (23.6)	12,446 (24.1)	0.6 (0.0-1.1)	0.97 (0.95-0.99)
Secondary Outcomes				
Adverse drug event	812 (1.6)	801 (1.6)	0.0 (-0.1-0.2)	1.01 (0.92-1.12)
30-day count of outpatient physician visits, median (IQR)	2 (1-3)	2 (1-3)	-	1.00 (0.99-1.01)

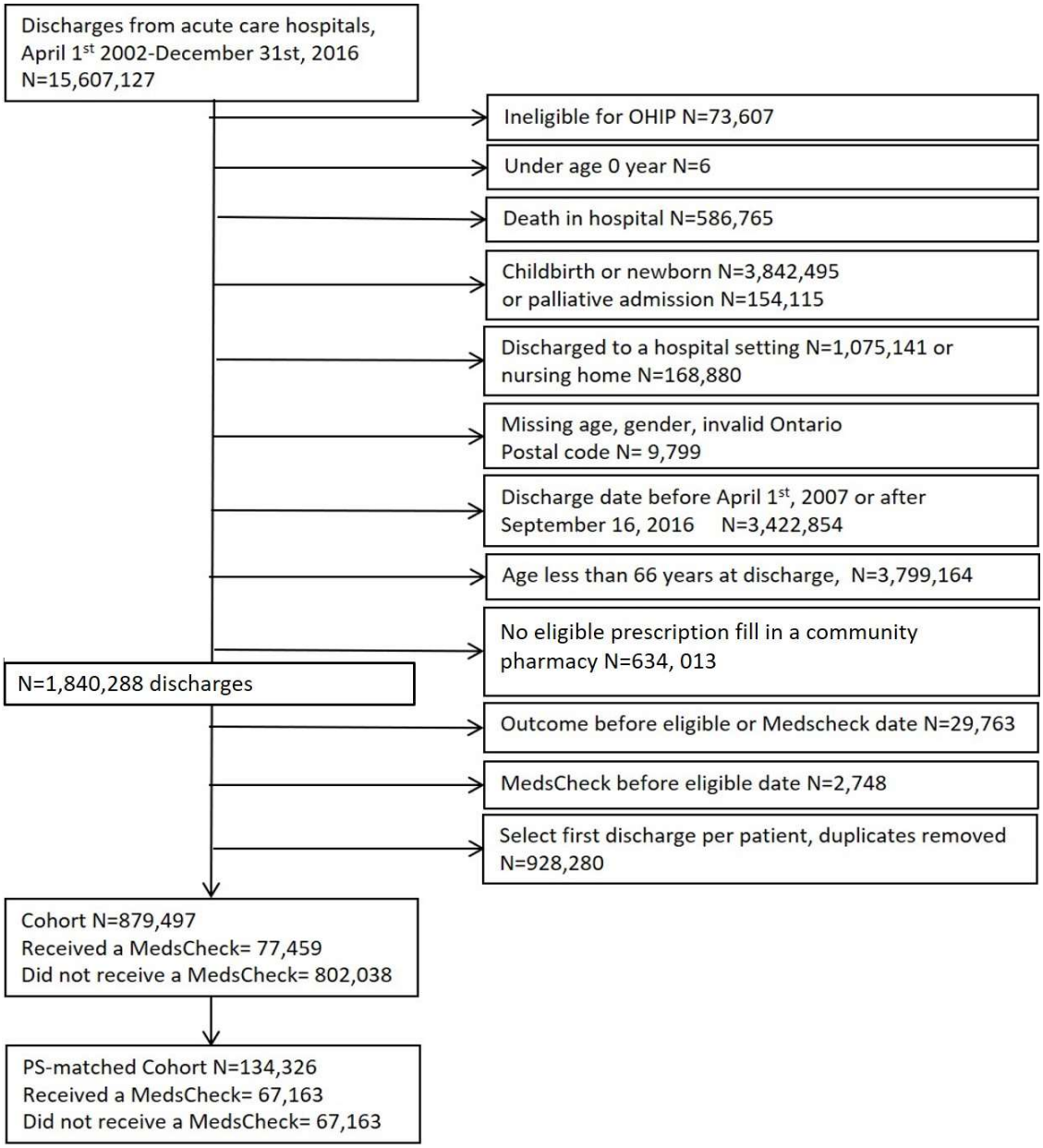
eTable 13. Outcome comparison in the matched sample at 30 days, for patients receiving MedsCheck late (more than two days after discharge) and controls. ED=emergency department

	MedsCheck n (%), Total	**Controls n (%), Total**	**Risk Difference, % (95% CI)**	**Hazard Ratio (95% CI)**
Death or readmission	3,101 (19.9)	3,010 (19.3)	0.6 (-0.3-1.5)	1.04 (0.99-1.09)
Death	226 (1.5)	280 (1.8)	0.4 (0.1-0.6)	0.81 (0.68-0.96)
Re-hospitalization	1,405 (9.0)	1,462 (9.4)	0.4 (-0.3-1.0)	0.96 (0.89-1.03)
Return to ED	2,973 (19.1)	2,841 (18.2)	0.9 (-0.0-1.7)	1.05 (1.00-1.11) P=0.056
Secondary Outcomes				
Adverse drug event	196 (1.3)	180 (1.2)	0.1 (-0.1-0.3)	1.09 (0.89-1.33)
30-day count of outpatient physician visits, median (IQR)	2 (1-3)	2 (1-3)	-	1.03 (1.01-1.05) Risk Ratio

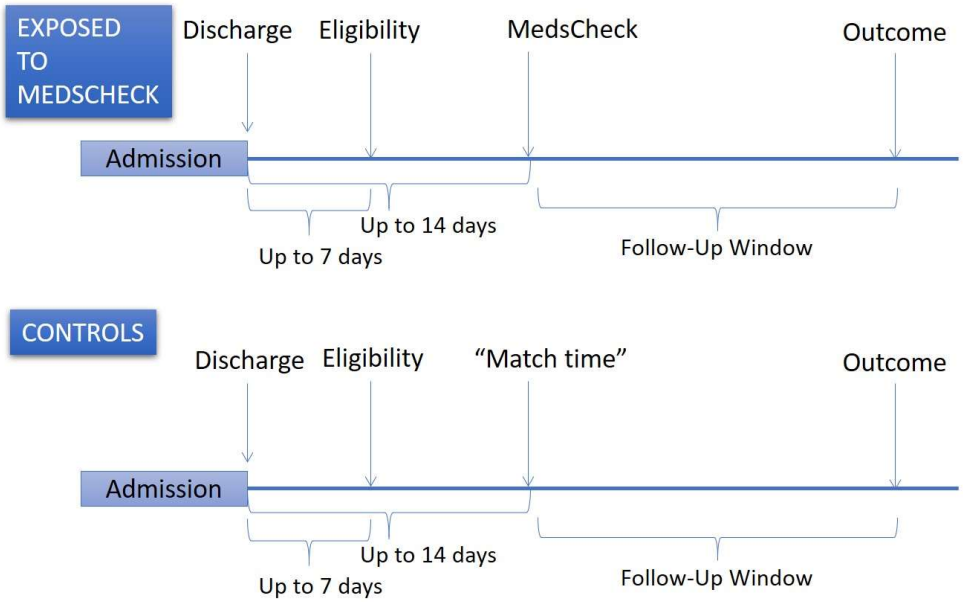
eTable 14. Results of sensitivity analysis (random effect for pharmacy in propensity score model), for all outcomes. ED=emergency department

	MedsCheck, n (%) Total N=63,207	**Controls, n (%) Total N=63,207**	**Risk Difference, % (95% CI)**	**Hazard Ratio (95% CI)**
Death or readmission	14,738 (23.3)	14,891 (23.6)	0.2 (-0.2-0.7)	0.99 (0.96-1.01)
Death	1,047 (1.7)	1,281 (2.0)	0.4 (0.2-0.5)	0.82 (0.75-0.89)
Re-hospitalization	6,885 (10.9)	7,056 (11.2)	0.3 (-0.1-0.6)	0.97 (0.94-1.01)
Return to ED	14,201 (22.5)	14,120 (22.3)	0.1 (-0.3-0.6)	1.00 (0.98-1.03)
Secondary Outcomes				
Adverse drug event	906 (1.4)	858 (1.4)	0.1 (-0.1-0.2)	1.05 (0.96-1.16)
30-day count of outpatient physician visits, median (IQR)	2 (1-3)	2 (1-3)	-	1.02 (1.01-1.03) Risk Ratio

eFigure 1. Study flowchart OHIP=Ontario health insurance plan, PS=propensity score



eFigure 2. Time periods for evaluating exposure and outcome status in matched MedsCheck recipients and controls.

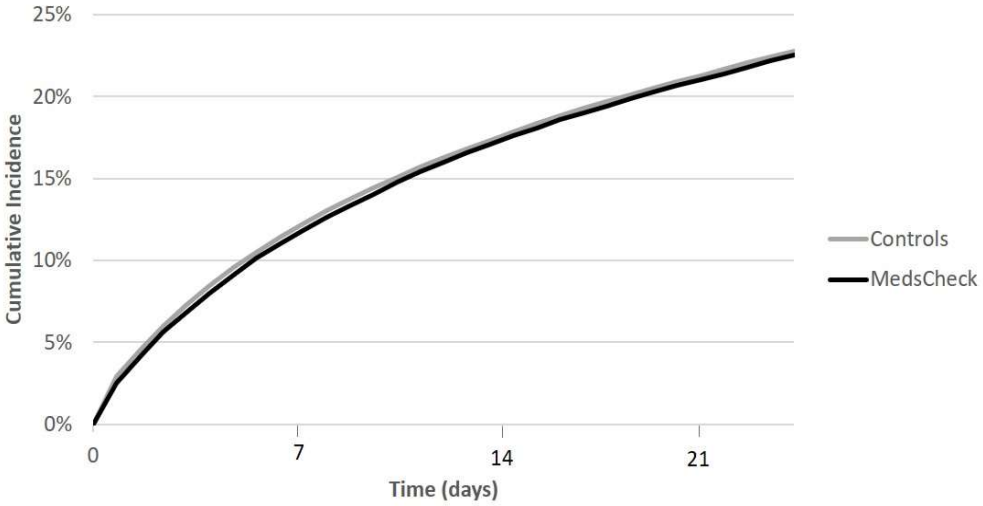


Propensity score matching and observation windows

A propensity score was derived from a logistic regression model to predict receipt of MedsCheck based on all other covariates. We then created pairs of exposed and control subjects by matching subjects who received a MedsCheck with those who did not on the logit of the propensity score using a caliper width of 0.2 of the standard deviation of the logit of the propensity score.[4] The matching algorithm included hard matching on variables to be used for subgroup analyses: admission diagnosis of heart failure or chronic obstructive pulmonary disease, or new high risk medication prescription. Due to imbalance between matched groups on the proportion of patients with a circulatory condition and with signs/symptoms not otherwise specified (Standardized difference at or above 10%), these variables were added as additional hard matching criteria.

In addition, several time criteria were specified in the matching algorithm to ensure equal observation time between MedsCheck recipients and controls. Controls were assigned a "match time", which was equal to the time from discharge to MedsCheck of their matched subject. The match/MedsCheck date was the start of the observation window for all outcomes. To ensure comparability, controls could not have experienced an outcome prior to their matching time, and had to meet criteria for MedsCheck eligibility (prescription fill and 3+ chronic medications in the previous 6 months) by the match date.

eFigure 3. Cumulative Incidence Curve of time to return to the emergency department



Number at risk				
MedsCheck	67,163	60,948	57,056	54,448
Control	67,163	60,597	56,778	54,142

REFERENCES

1. Institute for Safe Medication Practices. High-Alert Medications in Community/Ambulatory Settings. 2017; https://www.ismp.org/recommendations/high-alert-medications-community-ambulatory-list.

2. Bayoumi I, Dolovich L, Hutchison B, Holbrook A. Medication-related emergency department visits and hospitalizations among older adults. *Can Fam Physician.* 2014;60(4):e217-222.

3. Canadian Institute for Health Information. *Adverse Drug Reaction–Related Hospitalizations Among Seniors, 2006 to 2011.* 2013.

4. Austin PC. Optimal caliper widths for propensity-score matching when estimating differences in means and differences in proportions in observational studies. *Pharm Stat.* 2011;10(2):150-161.