

Appendix 1 (as submitted by the authors): Supplemental Tables 1–3

eTable 1. Description of Ontario health administrative data sources included in this study

Database	Description
Continuing Care Reporting System Long-Term Care (CCRS-LTC) database	The CCRS-LTC database is comprised of mandatory, clinical assessments performed on all nursing home residents in Ontario. Nursing home assessments are made using the Resident Assessment Instrument Minimum Data Set (RAI-MDS) version 2.0, a previously validated tool. ^{1,2} Full assessments are completed on admission, annually and following any significant health status change by trained medical personnel.
Discharge Abstract Database (DAD)	The DAD is compiled by the Canadian Institute for Health Information and contains administrative, clinical (diagnoses and procedures), and demographic information for all admissions to acute care hospitals in Ontario. DAD records have been demonstrated to have excellent agreement (over 99%) for demographic and administrative data. Regarding diagnoses, median agreement between original DAD records and re-abstracted records for the 50 most common most responsible diagnoses was noted to be 81% (Sensitivity 82%; Specificity 82%). ³ The corresponding median agreement for the 50 most frequently performed surgical procedures was 92% (sensitivity 95%, positive predictive value 91%).
National Ambulatory Care Reporting System (NACRS)	The NACRS is compiled by the Canadian Institute for Health Information and contains administrative, clinical (diagnoses and procedures), and demographic information for all patient visits made to hospital- and community-based ambulatory care centres (emergency departments, day surgery units, dialysis and cancer care clinics) in Ontario.
Ontario Drug Benefit (ODB) program database	The ODB database contains prescription medication claims for those covered under the provincial drug program, mainly those aged 65 years and older, nursing home residents, and those receiving social assistance. Each medication claim has an associated prescriber identifier which indicates the health practitioner who wrote the prescription. A special flag in the ODB database indicates whether the prescription was dispensed in the community or nursing home setting. An audit of 5,155 randomly selected prescriptions dispensed from 50 Ontario pharmacies determined that the ODB had an error rate of

Ontario Health Insurance Plan (OHIP) physician billing claims database	0.7% and none of the pharmacy characteristics examined (locations, owner affiliation, productivity) were associated with coding errors. ⁴ The OHIP physician billing claims database contains information on all outpatient services provided by fee-for-service physicians in Ontario and “shadow billings” for physicians paid under alternate payment plans. Billing codes are specific in identifying services provided in the nursing home setting.
Registered Persons Database (RPDB)	The RPDB provides basic demographic information (age, sex, area of residence, date of birth, and date of death for deceased individuals) about anyone who has ever received an Ontario health card number (e.g., been enrolled in the province’s publicly funded health insurance system).

References

1. Kim H, Jung YI, Sung M, Lee JY, Yoon JY, Yoon JL: Reliability of the interRAI Long Term Care Facilities (LTCF) and interRAI Home Care (HC). *Geriatr Gerontol Int* 2015; 15: 220-8
2. Mor V: A comprehensive clinical assessment tool to inform policy and practice: applications of the minimum data set. *Med Care* 2004; 42: III50-III59
3. Juurlink, D, Preyra, C, Croxford, R, Chong, A, Austin, P, Tu, J, and Laupacis, A. Canadian Institute for Health Information Discharge Abstract Database: A Validation Study. 2006. Toronto, Institute for Clinical Evaluative Sciences.
4. Levy AR, O'Brien BJ, Sellors C, Grootendorst P, Willison D: Coding accuracy of administrative drug claims in the Ontario Drug Benefit database. *Can J Clin Pharmacol* 2003; 10: 67-71

eTable 2. Propensity-score model output for predicting intensive-dose versus moderate-dose statin use

Characteristic	Odds Ratio^a (95% Confidence Interval)
<i>Demographics</i>	
Age, per year increase	0.96 (0.95-0.97)
Sex (male)	1.25 (1.16-1.34)
Time in nursing home	
<1 year	1.00 (reference)
1-4 years	0.93 (0.86-1.01)
5-9 years	0.73 (0.65-0.82)
10+ years	0.73 (0.56-0.94)
<i>General health status</i>	
Aggregated Diagnosis Groups in past 2 years	
0	1.00 (reference)
1-5	1.10 (0.99-1.22)
6-10	1.14 (1.02-1.29)
11+	1.10 (0.95-1.28)
Performance of activities of daily living	
Independent without supervision	1.00 (reference)
Independent with supervision	0.99 (0.8-1.22)
Limited	1.03 (0.85-1.25)
Extensive, level 1	1.10 (0.92-1.32)
Extensive, level 2	1.08 (0.9-1.29)
Dependent	1.04 (0.86-1.26)
Total dependence	0.94 (0.73-1.22)
Cognitive performance scale	
Intact	1.00 (reference)
Borderline intact	1.07 (0.93-1.22)
Mild impairment	1.04 (0.91-1.17)
Moderate impairment	1.09 (0.97-1.24)
Moderate severe impairment	1.10 (0.93-1.3)
Severe impairment	1.00 (0.84-1.2)
Very severe impairment	1.05 (0.82-1.35)
<i>Clinical diagnoses</i>	
Diabetes	1.05 (0.96-1.15)
Congestive heart failure	1.00 (0.91-1.10)
Hypertension	0.97 (0.89-1.05)
Arteriosclerotic heart disease	1.10 (1.02-1.20)
Peripheral vascular disease	1.21 (1.07-1.36)
Deep vein thrombosis	0.82 (0.60-1.13)
Cardiac dysrhythmia disorders	0.94 (0.84-1.06)
Alzheimer's disease and related dementias	0.96 (0.88-1.05)
Cancer	1.11 (0.99-1.24)
Emphysema/COPD/Asthma	1.03 (0.95-1.12)
Depression	1.03 (0.95-1.12)
Arthritis	0.90 (0.66-1.21)
Parkinson's disease	0.86 (0.74-0.99)
<i>History of atherosclerotic-related hospitalization</i>	
Myocardial infarction	1.94 (1.78-2.12)
Ischemic heart disease without infarction	1.27 (1.17-1.38)
Stroke	1.68 (1.56-1.81)
Peripheral arterial disease	1.33 (1.12-1.57)
<i>ED and hospital use in past year</i>	
Any ED visit	0.97 (0.87-1.08)

Any inpatient hospitalization	1.01 (0.90-1.13)
Any ED visit with a cardiovascular diagnosis	1.18 (1.03-1.34)
Any inpatient hospitalization with a cardiovascular diagnosis	1.15 (1.02-1.31)

Concurrent drug therapy use

Number of unique drug therapies	
0-5	1.00 (reference)
6-10	1.02 (0.93-1.13)
11+	1.03 (0.91-1.16)
Angiotensin-converting enzyme inhibitors	1.17 (1.09-1.26)
Angiotensin receptor blockers	1.02 (0.92-1.13)
Beta-blockers	1.22 (1.14-1.32)
Calcium channel blockers	1.08 (1.00-1.16)
Oral anti-glycemics	1.03 (0.93-1.15)
Antipsychotics	0.92 (0.85-1.00)
Benzodiazepines	1.00 (0.90-1.11)
Antibiotics	1.05 (0.93-1.19)
Opioids	0.96 (0.87-1.04)
Antidepressants	1.05 (0.97-1.14)
Cholinesterase inhibitors	1.00 (0.92-1.08)

Covariance parameter estimate for nursing home-specific random intercept = 0.1778 (Z value 9.69, p-value <0.001)
a – Odds of receiving intensive-dose statins compared with moderate-dose statins.

eTable 3. Description of statin medications used at and one year prior to assessment prescription in unmatched and matched cohorts

Characteristic	Unmatched		Propensity-score matched	
	Intensive-dose statin users N=4,762	Moderate-dose statin users N=17,046	Intensive-dose statin users N=4,577	Moderate-dose statin users N=4,577
<i>Statin used at assessment prescription</i>				
Atorvastatin ≥40 mg/day	3,438 (72.2%)	0 (0.0%)	3,299 (72.1%)	0 (0.0%)
Rosuvastatin ≥20 mg/day	1,306 (27.4%)	0 (0.0%)	1,260 (27.5%)	0 (0.0%)
Simvastatin ≥80 mg/day	18 (0.4%)	0 (0.0%)	18 (0.4%)	0 (0.0%)
Atorvastatin <40 mg/day	0 (0.0%)	9,466 (55.5%)	0 (0.0%)	2,541 (55.5%)
Rosuvastatin <20 mg/day	0 (0.0%)	4,499 (26.4%)	0 (0.0%)	1,204 (26.3%)
Simvastatin <80 mg/day	0 (0.0%)	2,062 (12.1%)	0 (0.0%)	574 (12.5%)
Any pravastatin	0 (0.0%)	802 (4.7%)	0 (0.0%)	207 (4.5%)
Any lovastatin	0 (0.0%)	170 (1.0%)	0 (0.0%)	39 (0.9%)
Any fluvastatin	0 (0.0%)	47 (0.3%)	0 (0.0%)	12 (0.3%)
<i>Statin use in year prior to assessment prescription</i>				
Intensive-dose statin	4,737 (99.5%)	572 (3.4%)	4,552 (99.5%)	210 (4.6%)
Moderate-dose statin	308 (6.5%)	17,016 (99.8%)	284 (6.2%)	4,566 (99.8%)