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# **Supplementary Data**

<u>**Title:**</u> Prescriber Implementation of STOPP/START Recommendations for Hospitalised Older Adults: A Comparison of a Pharmacist Approach and a Physician Approach

Journal Name: Drugs & Aging

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## Appendix 1

# Table 3: Pharmacist recommendations for *"missing medications"* identified by medication reconciliation that would have been identified by START criteria

START-based Recommendations		
Cardiovascular System	22/27	
Warfarin with chronic atrial fibrillation	2/3	
Aspirin with chronic atrial fibrillation where warfarin is contraindicated		
Aspirin or clopidogrel with a documented history of atherosclerotic coronary, cerebral or peripheral	7/9	
vascular disease in patients with sinus rhythm		
Statin therapy with history of coronary, cerebral, or peripheral artery disease without contraindication	8/9	
ACE-inhibitor with chronic heart failure	0/1	
Beta-blocker with chronic stable angina	1/1	
Respiratory System	16/20	
Regular inhaled beta 2 agonist or anticholinergic agent for mild to moderate asthma or COPD	5/7	
Regular inhaled corticosteroid for moderate-severe asthma or COPD, where predicted $FEV1 < 50\%$	11/13	
Central Nervous System	4/4	
Antidepressant drug in the presence of moderate-severe depressive symptoms lasting at least three	4/4	
months		
Musculoskeletal System	8/12	
Disease-modifying anti-rheumatic drug (DMARD) with active moderate-severe rheumatoid disease	0/1	
lasting > 12 weeks		
Bisphosphonates in patients taking maintenance oral corticosteroid therapy	1/2	
Calcium and vitamin D supplementation in patients with known osteoporosis, fragility fracture or	7/9	
dorsal kyphosis		
Endocrine System	8/8	
Metformin with type 2 diabetes mellitus +/- metabolic syndrome	2/2	
ACE-inhibitor or angiotensin 2 receptor blocker in patients with diabetes and nephropathy	1/1	
Antiplatelet therapy in those with diabetes mellitus and one or more major cardiovascular risk factors	1/1	
Statin therapy in patients with diabetes mellitus and one or more major cardiovascular risk factors	4/4	
Tatal	59/71	

ACE: Angiotensin Converting Enzyme. COPD: Chronic Obstructive Pulmonary Disease. FEV1: Forced Expiratory Volume in 1 second.

#### Appendix 2

Table 4: Prescriber Implementation Rates for START Recommendations: Physician versus Pharmacist (including recommendations for *"missing medications"* identified by medication reconciliation that would have been identified by START criteria)

START-based Recommendations	Physician	Pharmacist	<i>p</i> -value†
Cardiovascular System	29/37	26/42	0.1121
Warfarin with chronic atrial fibrillation		2/3	0.4961
Aspirin with chronic atrial fibrillation where warfarin is contraindicated	2/3	4/5	0.6733
Aspirin or clopidogrel with a documented history of atherosclerotic coronary,	0/2	9/14	0.0865
cerebral or peripheral vascular disease in patients with sinus rhythm			
Antihypertensive therapy where systolic blood pressure consistently > 160 mmHg		-	-
Statin therapy with history of coronary, cerebral, or peripheral artery disease without	8/9	9/12	0.2367
contraindication			
ACE inhibitor with chronic heart failure		1/5	0.0989
ACE inhibitor following acute myocardial infarction	-	0/1	-
Beta-blocker with chronic stable angina.	-	1/2	-
Respiratory System		16/20	-
Regular inhaled beta 2 agonist or anticholinergic agent for mild to moderate asthma	-	5/7	-
or COPD			
Regular inhaled corticosteroid for moderate-severe asthma or COPD, where	-	11/13	-
predicted FEV1 $< 50\%$ .			
Central Nervous System		4/4	
Antidepressant drug in the presence of moderate-severe depressive symptoms	-	4/4	-
lasting at least three months.			
Gastrointestinal System	1/1	-	-
Proton Pump Inhibitor with severe gastro-oesophageal acid reflux disease or peptic	1/1	-	-
stricture requiring dilatation.			
Musculoskeletal System	97/109	14/31	< 0.0001*
Disease-modifying anti-rheumatic drug (DMARD) with active moderate-severe	-	0/1	-
rheumatoid disease lasting > 12 weeks			
Bisphosphonates in patients taking maintenance oral corticosteroid therapy	14/18	2/12	0.001*
Calcium and vitamin D supplementation in patients with known osteoporosis,	83/91	12/18	0.0045*
fragility fracture or dorsal kyphosis			
Endocrine System	12/12	11/18	0.0136*
Metformin with type 2 diabetes mellitus +/- metabolic syndrome	1/1	2/2	‡
ACE-inhibitor or angiotensin 2 receptor blocker in patients with diabetes and	7/7	1/1	‡
nephropathy			
Antiplatelet therapy in those with diabetes mellitus and one or more major	2/2	2/2	‡
cardiovascular risk factors			
Statin therapy in patients with diabetes mellitus and one or more major	2/2	6/13	0.1553
cardiovascular risk factors			
Total START Recommendations	139/159	71/115	< 0.0001*
Total STOPP/START Recommendations	376/451	171/370	< 0.0001*

ACE: Angiotensin Converting Enzyme.COPD: Chronic Obstructive Pulmonary Disease.FEV1: Forced Expiratory Volume in 1 second. $\dagger p$ -value calculated using chi-squared test.\* Statistically significant difference observed (p < 0.05). $\ddagger p$ -value cannot be calculated.

# Appendix 3

## Table 5: Comparable Clinical Outcomes between interventions

Clinical Outcome Measure	Physician	Pharmacist
Adverse Drug Reactions (ADRs):		
Control Patients with ADRs (%)	78 (21)	78 (20.7)
Intervention Patients with ADRs (%)	42 (11.7)	50 (13.9)
Absolute Risk Reduction in patients with ADRs	9.3%	6.8%
Relative Risk Reduction in patients with ADRs	44.3%	32.9%
Median Length of Hospital Stay:		
Control Patients (IQR)	8 days (4 – 14)	9 days (5 – 16)
Intervention Patients (IQR)	8 days (4 – 14)	8 days (5 – 13.5)
Significance level	Not stated in paper or supplementary data	<i>p</i> = 0.444
Mortality:		
Control Patients	11	17
Intervention Patients	9	17
Significance level	p = 0.6	p = 0.9
	"in-hospital deaths"	"died during their index hospital stay"

IQR = Interquartile range.