

Supplementary Material

Development of explicit criteria identifying potentially inappropriate polypharmacy in older adults in New Zealand primary care: a mixed-methods study

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Supplementary Table 1 Indicators included in the modified Delphi analysis

Indicator number	Potentially inappropriate medication indicators	Source	NGT tally of votes
Anticholinergics			
1	First-generation antihistamines, e.g. promethazine.	NGT/Beers Criteria	2
2	Oral benztropine for treatment or prevention of extrapyramidal symptoms with antipsychotics.	Beers Criteria	
3	Antispasmodics, e.g. atropine (excludes ophthalmic), propantheline, scopolamine.	Beers Criteria	
4	Anticholinergics in older adults with delirium.	Beers Criteria	
5	Anticholinergics in older adults with dementia or cognitive impairment.	Beers Criteria	
6	Anticholinergics prescribed with other anticholinergic drugs.	Beers Criteria	
7	Strongly anticholinergic medications, excluding antimuscarinics for treatment of urinary incontinence in older men with lower urinary tract symptoms or benign prostatic hyperplasia.	Beers Criteria	
8	Antimuscarinic class of drugs.	NGT	6
Cardiovascular			
9	Peripheral alpha-1 blockers (e.g. doxazosin, prazosin, terazosin) used as an antihypertensive.	Beers Criteria	
10	Peripheral alpha-1 blockers (e.g. doxazosin, prazosin, terazosin) in urinary incontinence in older women.	Beers Criteria	
11	Peripheral alpha-1 blockers prescribed with loop diuretics in older women.	Beers Criteria	
12	Peripheral alpha-1 blockers (e.g. doxazosin, prazosin, terazosin) in older adults with syncope.	Beers Criteria	
13	Alpha blockers in the elderly with postural hypotension problems.	NGT	2
14	Multiple antihypertensives in frailty.	NGT	5

Light shade: indicators from the Beers Criteria. Medium shade: indicators from the NGT also identified in the Beers Criteria. Dark shade: indicators from the NGT.

Abbreviations: NGT, nominal group technique; CNS, central nervous system; CCB, calcium channel blocker; VTE, venous thromboembolism; NSAID, non-steroidal anti-inflammatory drug; RAS, renin-angiotensin-system; ACEi, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; TCA, tricyclic antidepressant; SSRI, selective serotonin reuptake inhibitor; SNRI, serotonin-norepinephrine reuptake inhibitor; eGFR, estimated glomerular filtration rate; HbA1c, haemoglobin A1C; COX-2, cyclooxygenase-2; SIADH, syndrome of inappropriate antidiuretic hormone secretion.

15	Clonidine as first line treatment of hypertension.	Beers Criteria	
16	CNS alpha-agonist methyldopa.	Beers Criteria	
17	Loop diuretics for peripheral edema with no diagnosis of heart failure.	NGT	2
18	Nondihydropyridine CCBs (diltiazem, verapamil) in heart failure with reduced ejection fraction.	NGT/Beers Criteria	1
19	Disopyramide.	Beers Criteria	
20	Digoxin as first line therapy of heart failure or atrial fibrillation.	Beers Criteria	
21	Digoxin > 0.125 mg per day if used for heart failure or atrial fibrillation.	Beers Criteria	
22	Amiodarone as first line treatment in atrial fibrillation without diagnosis of substantial left ventricular hypertrophy or heart failure.	Beers Criteria	
23	Amiodarone in the elderly.	NGT	1
24	Combination antiplatelets with anticoagulants in stable heart disease.	NGT	4
25	Aspirin for primary prevention of colorectal cancer and cardiovascular disease in adults ≥ 70 years old.	NGT/Beers Criteria	1
26	Dabigatran or rivaroxaban for treatment of atrial fibrillation or VTE in older adults ≥ 75 years old.	Beers Criteria	
27	Complications of prescribing dabigatran in the elderly.	NGT	1
28	Prasugrel in older adults ≥ 75 years old.	Beers Criteria	
29	Warfarin prescribed with amiodarone, ciprofloxacin, macrolides (excluding azithromycin), trimethoprim-sulfamethoxazole, NSAIDs.	Beers Criteria	
30	RAS inhibitor (ACEi, ARB) or potassium sparing diuretic prescribed with another RAS inhibitor in older adults with chronic kidney disease stage 3a or greater.	Beers Criteria	
31	Triple whammy interaction.	NGT	3
Central nervous system			
32	The below antidepressants, alone or in combination. Amitriptyline	Beers Criteria	

Light shade: indicators from the Beers Criteria. Medium shade: indicators from the NGT also identified in the Beers Criteria. Dark shade: indicators from the NGT.

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	Clomipramine Doxepin > six mg per day Imipramine Nortriptyline Paroxetine		
33	Antidepressants TCA or SSRI or SNRI in older adults with history of falls or fractures.	Beers Criteria	
34	Tertiary tricyclic antidepressants in older adults with syncope.	Beers Criteria	
35	Tricyclics or quetiapine for sleep.	NGT	6
36	Inappropriate SSRI in dementia.	NGT	1
37	Long acting, intermediate acting, short acting benzodiazepines.	NGT/Beers Criteria	7
38	Nonbenzodiazepine, benzodiazepine receptor agonist hypnotics (i.e. 'Z-drugs').	NGT/Beers Criteria	0
39	Use of antipsychotics, first (conventional) and second (atypical) generation, except in schizophrenia, bipolar disorder, or short term antiemetic use in chemotherapy.	Beers Criteria	
40	Antipsychotics chlorpromazine, olanzapine in older adults with syncope.	Beers Criteria	
41	Antipsychotics in older adults with delirium.	Beers Criteria	
42	Antipsychotics in older adults with history of falls or fractures.	Beers Criteria	
43	Antipsychotics (except quetiapine, clozapine) in older adults with Parkinson's disease.	Beers Criteria	
44	Antipsychotics in older adults with cognitive impairment, or dementia without a target behavior identified.	NGT/Beers Criteria	4
45	Antiepileptics in older adults with history of falls or fractures.	Beers Criteria	
46	Antiemetics e.g. metoclopramide, prochlorperazine, promethazine in older adults with Parkinson's disease.	Beers Criteria	
47	Any combination of \geq three CNS active medications such as antidepressants, antipsychotics, antiepileptics, benzodiazepines, 'Z' drugs, opioids.	Beers Criteria	
48	Lithium prescribed with ACEi or loop diuretics.	Beers Criteria	

Light shade: indicators from the Beers Criteria. Medium shade: indicators from the NGT also identified in the Beers Criteria. Dark shade: indicators from the NGT.

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49	Barbiturates e.g. phenobarbital.	Beers Criteria	
50	Acetylcholinesterase inhibitors in older adults with syncope.	Beers Criteria	
Endocrine			
51	Testosterone unless for confirmed hypogonadism with clinical symptoms.	Beers Criteria	
52	Systemic oestrogen (e.g. oral and topical patch) excluding intravaginal oestrogen.	Beers Criteria	
53	Megestrol.	Beers Criteria	
54	Growth hormone, except for older adults diagnosed with growth hormone deficiency due to an established etiology.	Beers Criteria	
55	Corticosteroids (oral and parenteral) in older adults with delirium.	Beers Criteria	
56	Insulin regimens with only short or rapid-acting insulin dosed based on current blood glucose levels without concomitant use of basal or long-acting insulin.	Beers Criteria	
57	Long-acting sulfonylureas e.g. glibenclamide (glyburide).	Beers Criteria	
58	Pioglitazone in older adults with heart failure.	Beers Criteria	
59	Metformin use without at least six monthly monitoring of eGFR.	NGT	3
60	Excessively tight control of blood glucose (HbA1c target less than 58 mmol per mol) when taking antidiabetic medications.	NGT	7
Gastrointestinal			
61	Metoclopramide unless for gastroparesis for no longer than 12 weeks except in exceptional circumstances.	Beers Criteria	
62	Proton-pump inhibitors use for > eight weeks unless for high-risk older adults (e.g. oral corticosteroids or long-term NSAID use), Barrett's esophagitis, erosive esophagitis, pathological hypersecretory condition, or needing maintenance use (e.g. due to unsuccessful drug discontinuation trial or H2-receptor antagonists).	NGT/Beers Criteria	0
63	H2-receptor antagonists in older adults with delirium.	Beers Criteria	
Pain			
64	Chronic non-cyclooxygenase-selective NSAID use unless other alternatives are ineffective and the patient is able to take a gastroprotective agent.	Beers Criteria	

Light shade: indicators from the Beers Criteria. Medium shade: indicators from the NGT also identified in the Beers Criteria. Dark shade: indicators from the NGT.

Abbreviations: NGT, nominal group technique; CNS, central nervous system; CCB, calcium channel blocker; VTE, venous thromboembolism; NSAID, non-steroidal anti-inflammatory drug; RAS, renin-angiotensin-system; ACEi, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; TCA, tricyclic antidepressant; SSRI, selective serotonin reuptake inhibitor; SNRI, serotonin-norepinephrine reuptake inhibitor; eGFR, estimated glomerular filtration rate; HbA1c, haemoglobin A1C; COX-2, cyclooxygenase-2; SIADH, syndrome of inappropriate antidiuretic hormone secretion.

65	NSAIDs and COX-2 inhibitors in older adults with heart failure.	NGT/Beers Criteria	0
66	Non-COX-2 selective NSAIDs in older adults with history of gastric or duodenal ulcers.	Beers Criteria	
67	Aspirin (> 325 mg per day) in older adults with history of gastric or duodenal ulcers.	Beers Criteria	
68	NSAIDs in older adults with renal impairment or chronic kidney disease stage 4 or higher.	NGT/Beers Criteria	1
69	NSAIDs prescribed with oral or parenteral corticosteroids.	Beers Criteria	
70	Opioids in older adults with history of falls or fractures, except for severe acute pain management, e.g. joint replacement.	Beers Criteria	
71	Opioids prescribed with benzodiazepines or gabapentin, pregabalin.	Beers Criteria	
72	Persistence of strong opioids in acute pain.	NGT	5
73	Pethidine (meperidine).	Beers Criteria	
74	Gabapentin or pregabalin in general pain.	NGT	1
75	Skeletal muscle relaxants e.g. orphenadrine.	Beers Criteria	
Anti-infective			
76	Trimethoprim-sulfamethoxazole in older adults taking ACEi or ARB with reduced creatinine clearance.	Beers Criteria	
77	Trimethoprim-sulfamethoxazole prescribed with phenytoin.	Beers Criteria	
78	Nitrofurantoin in older adults with creatinine clearance < 30 ml per minute or for long-term suppression.	Beers Criteria	
Respiratory			
79	Theophylline prescribed with cimetidine or ciprofloxacin.	Beers Criteria	
80	Dextromethorphan.	Beers Criteria	
Genitourinary			
81	Desmopressin to treat nocturnal polyuria or nocturia.	Beers Criteria	
Other			

Light shade: indicators from the Beers Criteria. Medium shade: indicators from the NGT also identified in the Beers Criteria. Dark shade: indicators from the NGT.

Abbreviations: NGT, nominal group technique; CNS, central nervous system; CCB, calcium channel blocker; VTE, venous thromboembolism; NSAID, non-steroidal anti-inflammatory drug; RAS, renin-angiotensin-system; ACEi, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; TCA, tricyclic antidepressant; SSRI, selective serotonin reuptake inhibitor; SNRI, serotonin-norepinephrine reuptake inhibitor; eGFR, estimated glomerular filtration rate; HbA1c, haemoglobin A1C; COX-2, cyclooxygenase-2; SIADH, syndrome of inappropriate antidiuretic hormone secretion.

82	Medications that may exacerbate or cause hyponatremia or SIADH.	Beers Criteria	
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Light shade: indicators from the Beers Criteria. Medium shade: indicators from the NGT also identified in the Beers Criteria. Dark shade: indicators from the NGT.

Abbreviations: NGT, nominal group technique; CNS, central nervous system; CCB, calcium channel blocker; VTE, venous thromboembolism; NSAID, non-steroidal anti-inflammatory drug; RAS, renin-angiotensin-system; ACEi, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; TCA, tricyclic antidepressant; SSRI, selective serotonin reuptake inhibitor; SNRI, serotonin-norepinephrine reuptake inhibitor; eGFR, estimated glomerular filtration rate; HbA1c, haemoglobin A1C; COX-2, cyclooxygenase-2; SIADH, syndrome of inappropriate antidiuretic hormone secretion.

Supplementary Table 2 Indicators excluded from the modified Delphi analysis

Potentially inappropriate medication indicator	Source	Reason for exclusion from the modified Delphi analysis
<p>Long-term oral steroids.</p> <p>Atypical antipsychotics in Parkinson's disease.</p> <p>Digoxin in frailty for longer than three monthly.</p> <p>Excessive diuretics dosage and adverse effects.</p> <p>Complications or appropriateness for ACEi in advanced age or frailty.</p> <p>HRT prescribed for longer than indicated.</p> <p>Concomitant sulfonylurea with insulin in diabetes.</p> <p>Solifenacin and oxybutynin in over 75 years with urinary frequency.</p> <p>Oral bisphosphonates in greater than five years with no review.</p> <p>Allopurinol appropriateness.</p> <p>Inadequate monitoring of antiepileptics, e.g. Epilim.</p> <p>Long-term use of tamoxifen.</p>	NGT	Indicators did not receive NGT panel member votes and was not identified in the Beers Criteria.
<p>Dipyridamole, oral short acting use in older adults.</p> <p>Nifedipine, immediate release use in older adults.</p> <p>Indomethacin use in older adults.</p> <p>Dronedarone in heart failure or permanent atrial fibrillation.</p> <p>Meprobamate use in older adults.</p> <p>Ergoloid mesylates use in older adults.</p> <p>Isoxsuprine use in older adults.</p> <p>Dessicated thyroid use in older adults.</p> <p>Mineral oil given orally in older adults.</p> <p>Twenty-three indicators from Beers Criteria table six.</p>	Beers Criteria	<p>Dipyridamole, oral short acting; Nifedipine, immediate release; Indomethacin are unapproved medications.</p> <p>Dronedarone; Meprobamate; Ergoloid mesylates; Isoxsuprine; Dessicated thyroid; Mineral oil are unavailable medications.</p> <p>Beers Criteria Table 6 requires the calculation of kidney function, which is not feasible to extract from electronic healthcare records.</p>

Light shade: indicators excluded from the NGT. Medium shade: indicators excluded from the Beers Criteria.

Abbreviations: NGT, nominal group technique, ACEi, angiotensin converting enzyme inhibitor; HRT, hormone replacement therapy.

Supplementary Table 3 Modified Delphi analysis Likert scores and consensus percentages.

Category A: Anticholinergics	Round	Likert score	Consensus %
First generation antihistamines, e.g. promethazine.	Round 1	3	55.56%
	Round 2	3	77.78%
Oral benztropine for treatment or prevention of extrapyramidal symptoms with antipsychotics.	Round 1	2	77.78%
Antispasmodics, e.g. atropine (excludes ophthalmic), propantheline, scopolamine.	Round 1	2	66.67%
Anticholinergics in older adults with delirium.	Round 1	3	55.56%
	Round 2	4	55.56%
Anticholinergics in older adults with dementia or cognitive impairment.	Round 1	3	55.56%
	Round 2	4	55.56%
Anticholinergics prescribed with other anticholinergic drugs.	Round 1	3/4	44.44%
	Round 2	3	55.56%
Strongly anticholinergic medications, excluding antimuscarinics for treatment of urinary incontinence in older men with lower urinary tract symptoms or benign prostatic hyperplasia.	Round 1	3	44.44%
	Round 2	3	77.78%
Antimuscarinic class of drugs.	Round 1	2	44.44%
	Round 2	3	77.78%
Category B: Cardiovascular	Round	Likert score	Consensus %
Peripheral alpha-1 blockers (e.g. doxazosin, prazosin, terazosin) used as an antihypertensive.	Round 1	2	55.56%
	Round 2	2	66.67%
Peripheral alpha-1 blockers (e.g. doxazosin, prazosin, terazosin) in urinary incontinence in older women.	Round 1	2	44.44%
	Round 2	2	55.56%
Peripheral alpha-1 blockers prescribed with loop diuretics in older women.	Round 1	2/3	44.44%
	Round 2	3	55.56%
Peripheral alpha-1 blockers (e.g. doxazosin, prazosin, terazosin) in older adults with syncope.	Round 1	3	66.67%

Light shade: indicators that achieved a consensus threshold of 66% or above. Medium shade: indicators that did not achieve a consensus threshold of 66% or above.

Abbreviations: CNS, central nervous system; CCB, calcium channel blocker; VTE, venous thromboembolism; NSAID, non-steroidal anti-inflammatory drug; RAS, renin-angiotensin-system; ACEi, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; TCA, tricyclic antidepressant; SSRI, selective serotonin reuptake inhibitor; SNRI, serotonin-norepinephrine reuptake inhibitor; eGFR, estimated glomerular filtration rate; HbA1c, haemoglobin A1C; COX-2, cyclooxygenase-2; SIADH, syndrome of inappropriate antidiuretic hormone secretion.

Alpha blockers in the elderly with postural hypotension problems.	Round 1	4	55.56%
	Round 2	4	88.89%
Multiple antihypertensives in frailty.	Round 1	4	66.67%
Clonidine as first line treatment of hypertension.	Round 1	4	55.56%
	Round 2	4	77.78%
CNS alpha-agonist methyldopa.	Round 1	3	55.56%
	Round 2	3	66.67%
Loop diuretics for peripheral oedema with no diagnosis of heart failure.	Round 1	3	55.56%
	Round 2	3	66.67%
Nondihydropyridine CCBs (diltiazem, verapamil) in heart failure with reduced ejection fraction.	Round 1	3	55.56%
	Round 2	3	66.67%
Disopyramide.	Round 1	2	55.56%
	Round 2	2	66.67%
Digoxin as first line therapy of heart failure or atrial fibrillation.	Round 1	4	66.67%
Digoxin > 0.125 mg per day if used for heart failure or atrial fibrillation.	Round 1	3	66.67%
Amiodarone as first line treatment in atrial fibrillation without diagnosis of substantial left ventricular hypertrophy or heart failure.	Round 1	4	55.56%
	Round 2	4	77.78%
Amiodarone in the elderly.	Round 1	4	44.44%
	Round 2	3	77.78%
Combination antiplatelets with anticoagulants in stable heart disease.	Round 1	4	55.56%
	Round 2	4	77.78%
Aspirin for primary prevention of colorectal cancer and cardiovascular disease in adults ≥ 70 years old.	Round 1	4	44.44%
	Round 2	3	55.56%
Dabigatran or rivaroxaban for treatment of atrial fibrillation or VTE in older adults ≥ 75 years old.	Round 1	1	44.44%
	Round 2	2	55.56%
Complications of prescribing dabigatran in the elderly.	Round 1	3	33.33%
	Round 2	2	66.67%

Light shade: indicators that achieved a consensus threshold of 66% or above. Medium shade: indicators that did not achieve a consensus threshold of 66% or above.

Abbreviations: CNS, central nervous system; CCB, calcium channel blocker; VTE, venous thromboembolism; NSAID, non-steroidal anti-inflammatory drug; RAS, renin-angiotensin-system; ACEi, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; TCA, tricyclic antidepressant; SSRI, selective serotonin reuptake inhibitor; SNRI, serotonin-norepinephrine reuptake inhibitor; eGFR, estimated glomerular filtration rate; HbA1c, haemoglobin A1C; COX-2, cyclooxygenase-2; SIADH, syndrome of inappropriate antidiuretic hormone secretion.

Prasugrel in older adults ≥ 75 years old.	Round 1	1/2	44.44%
	Round 2	2	55.56%
Warfarin prescribed with amiodarone, ciprofloxacin, macrolides (excluding azithromycin), trimethoprim-sulfamethoxazole, NSAIDs.	Round 1	4	55.56%
	Round 2	4	55.56%
RAS inhibitor (ACEi, ARB) or potassium sparing diuretic prescribed with another RAS inhibitor in older adults with chronic kidney disease stage 3a or greater.	Round 1	4	66.67%
Triple whammy interaction.	Round 1	4	77.78%
Category C: Central nervous system	Round	Likert score	Consensus %
The below antidepressants, alone or in combination. Amitriptyline Clomipramine Doxepin > six mg per day Imipramine Nortriptyline Paroxetine	Round 1	3	44.44%
	Round 2	3	77.78%
Antidepressants TCA or SSRI or SNRI in older adults with history of falls or fractures.	Round 1	2	44.44%
	Round 2	3	55.56%
Tertiary tricyclic antidepressants in older adults with syncope.	Round 1	3/4	44.44%
	Round 2	3	77.78%
Tricyclics or quetiapine for sleep.	Round 1	4	55.56%
	Round 2	4	77.78%
Inappropriate SSRI in dementia.	Round 1	3	44.44%
	Round 2	3	66.67%
Long acting, intermediate acting, short acting benzodiazepines.	Round 1	3	55.56%
	Round 2	3	77.78%
Nonbenzodiazepine, benzodiazepine receptor agonist hypnotics (i.e. 'Z-drugs').	Round 1	4	55.56%

Light shade: indicators that achieved a consensus threshold of 66% or above. Medium shade: indicators that did not achieve a consensus threshold of 66% or above.

Abbreviations: CNS, central nervous system; CCB, calcium channel blocker; VTE, venous thromboembolism; NSAID, non-steroidal anti-inflammatory drug; RAS, renin-angiotensin-system; ACEi, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; TCA, tricyclic antidepressant; SSRI, selective serotonin reuptake inhibitor; SNRI, serotonin-norepinephrine reuptake inhibitor; eGFR, estimated glomerular filtration rate; HbA1c, haemoglobin A1C; COX-2, cyclooxygenase-2; SIADH, syndrome of inappropriate antidiuretic hormone secretion.

	Round 2	4	55.56%
Use of antipsychotics, first (conventional) and second (atypical) generation, except in schizophrenia, bipolar disorder, or short-term antiemetic use in chemotherapy.	Round 1	3	55.56%
	Round 2	3	88.89%
Antipsychotics chlorpromazine, olanzapine in older adults with syncope.	Round 1	3	88.89%
Antipsychotics in older adults with delirium.	Round 1	3	44.44%
	Round 2	3	66.67%
Antipsychotics in older adults with history of falls or fractures.	Round 1	4	55.56%
	Round 2	4	66.67%
Antipsychotics (except quetiapine, clozapine) in older adults with Parkinson's disease.	Round 1	4	55.56%
	Round 2	4	66.67%
Antipsychotics in older adults with cognitive impairment, or dementia without a target behaviour identified.	Round 1	4	66.67%
Antiepileptics in older adults with history of falls or fractures.	Round 1	2	44.44%
	Round 2	2	77.78%
Antiemetics, e.g. metoclopramide, prochlorperazine, promethazine in older adults with Parkinson's disease.	Round 1	3	55.56%
	Round 2	3	77.78%
Any combination of \geq three CNS active medications such as antidepressants, antipsychotics, antiepileptics, benzodiazepines, 'Z' drugs, opioids.	Round 1	4	100.00%
Lithium prescribed with ACEi or loop diuretics.	Round 1	3	44.44%
	Round 2	3	88.89%
Barbiturates, e.g. phenobarbital.	Round 1	4	44.44%
	Round 2	3	66.67%
Acetylcholinesterase inhibitors in older adults with syncope.	Round 1	3	77.78%
Category D: Endocrine	Round	Likert	Consensus

Light shade: indicators that achieved a consensus threshold of 66% or above. Medium shade: indicators that did not achieve a consensus threshold of 66% or above.

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Light shade: indicators that achieved a consensus threshold of 66% or above. Medium shade: indicators that did not achieve a consensus threshold of 66% or above.

		score	%
Testosterone unless for confirmed hypogonadism with clinical symptoms.	Round 1	2	66.67%
Systemic oestrogen (e.g. oral and topical patch) excluding intravaginal oestrogen.	Round 1	2/3	44.44%
	Round 2	2/3	44.44%
Megestrol.	Round 1	2	66.67%
Growth hormone, except for older adults diagnosed with growth hormone deficiency due to an established aetiology.	Round 1	2	44.44%
	Round 2	2	55.56%
Corticosteroids (oral and parenteral) in older adults with delirium.	Round 1	3	55.56%
	Round 2	3	77.78%
Insulin regimens with only short or rapid-acting insulin dosed based on current blood glucose levels without concomitant use of basal or long-acting insulin.	Round 1	4	55.56%
	Round 2	4	77.78%
Long-acting sulfonylureas, e.g. glibenclamide (glyburide).	Round 1	4	55.56%
	Round 2	4	100.00%
Pioglitazone in older adults with heart failure.	Round 1	3	55.56%
	Round 2	4	55.56%
Metformin use without at least six monthly monitoring of eGFR.	Round 1	3	66.67%
Excessively tight control of blood glucose (HbA1c target less than 58 mmol per mol) when taking antidiabetic medications.	Round 1	3/4	44.44%
	Round 2	3	55.56%
Category E: Gastrointestinal	Round	Likert score	Consensus %
Metoclopramide unless for gastroparesis for no longer than 12 weeks except in exceptional circumstances.	Round 1	3	77.78%
Proton-pump inhibitors use for > eight weeks unless for high-risk older adults (e.g. oral corticosteroids or long-term NSAID use), Barrett's esophagitis, erosive esophagitis, pathological hypersecretory condition, or needing maintenance use (e.g. due to unsuccessful drug discontinuation trial or H2-receptor antagonists).	Round 1	3	55.56%
	Round 2	3	55.56%
H2-receptor antagonists in older adults with delirium.	Round 1	3	66.67%

Abbreviations: CNS, central nervous system; CCB, calcium channel blocker; VTE, venous thromboembolism; NSAID, non-steroidal anti-inflammatory drug; RAS, renin-angiotensin-system; ACEi, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; TCA, tricyclic antidepressant; SSRI, selective serotonin reuptake inhibitor; SNRI, serotonin-norepinephrine reuptake inhibitor; eGFR, estimated glomerular filtration rate; HbA1c, haemoglobin A1C; COX-2, cyclooxygenase-2; SIADH, syndrome of inappropriate antidiuretic hormone secretion.

Light shade: indicators that achieved a consensus threshold of 66% or above. Medium shade: indicators that did not achieve a consensus threshold of 66% or above.

Category F: Pain	Round	Likert score	Consensus %
Chronic non-cyclooxygenase-selective NSAID use unless other alternatives are ineffective and the patient is able to take a gastroprotective agent.	Round 1	4	44.44%
	Round 2	3	66.67%
NSAIDs and COX-2 inhibitors in older adults with heart failure.	Round 1	4	66.67%
Non-COX-2 selective NSAIDs in older adults with history of gastric or duodenal ulcers.	Round 1	4	77.78%
Aspirin (> 325 mg per day) in older adults with history of gastric or duodenal ulcers.	Round 1	4	55.56%
	Round 2	4	66.67%
NSAIDs in older adults with renal impairment or chronic kidney disease stage 4 or higher.	Round 1	4	88.89%
NSAIDs prescribed with oral or parenteral corticosteroids.	Round 1	4	55.56%
	Round 2	3/4	44.44%
Opioids in older adults with history of falls or fractures, except for severe acute pain management, e.g. joint replacement.	Round 1	3	55.56%
	Round 2	3	77.78%
Opioids prescribed with benzodiazepines or gabapentin, pregabalin.	Round 1	4	55.56%
	Round 2	4	66.67%
Persistence of strong opioids in acute pain.	Round 1	4	55.56%
	Round 2	4	77.78%
Pethidine (meperidine).	Round 1	2/3/4	33.33%
	Round 2	3	55.56%
Gabapentin or pregabalin in general pain.	Round 1	3	66.67%
Skeletal muscle relaxants, e.g. orphenadrine.	Round 1	2	55.56%
	Round 2	2/3	44.44%
Category G: Anti-infective	Round	Likert score	Consensus %
Trimethoprim-sulfamethoxazole in older adults taking ACEi or ARB with reduced creatinine clearance.	Round 1	3	55.56%
	Round 2	3	66.67%
Trimethoprim-sulfamethoxazole prescribed with phenytoin.	Round 1	3	55.56%

Abbreviations: CNS, central nervous system; CCB, calcium channel blocker; VTE, venous thromboembolism; NSAID, non-steroidal anti-inflammatory drug; RAS, renin-angiotensin-system; ACEi, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; TCA, tricyclic antidepressant; SSRI, selective serotonin reuptake inhibitor; SNRI, serotonin-norepinephrine reuptake inhibitor; eGFR, estimated glomerular filtration rate; HbA1c, haemoglobin A1C; COX-2, cyclooxygenase-2; SIADH, syndrome of inappropriate antidiuretic hormone secretion.

Light shade: indicators that achieved a consensus threshold of 66% or above. Medium shade: indicators that did not achieve a consensus threshold of 66% or above.

	Round 2	3	88.89%
Nitrofurantoin in older adults with creatinine clearance < 30 ml per minute or for long-term suppression.	Round 1	¾	44.44%
	Round 2	3	88.89%
Category H: Respiratory	Round	Likert score	Consensus %
Theophylline prescribed with cimetidine or ciprofloxacin.	Round 1	2	44.44%
	Round 2	2	55.56%
Dextromethorphan.	Round 1	2	77.78%
Category I: Genitourinary	Round	Likert score	Consensus %
Desmopressin to treat nocturnal polyuria or nocturia.	Round 1	3	44.44%
	Round 2	3	55.56%
Category J: Other	Round	Likert score	Consensus %
Medications that may exacerbate or cause hyponatremia or SIADH.	Round 1	3	66.67%

Abbreviations: CNS, central nervous system; CCB, calcium channel blocker; VTE, venous thromboembolism; NSAID, non-steroidal anti-inflammatory drug; RAS, renin-angiotensin-system; ACEi, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; TCA, tricyclic antidepressant; SSRI, selective serotonin reuptake inhibitor; SNRI, serotonin-norepinephrine reuptake inhibitor; eGFR, estimated glomerular filtration rate; HbA1c, haemoglobin A1C; COX-2, cyclooxygenase-2; SIADH, syndrome of inappropriate antidiuretic hormone secretion.