Appendix 1: STOPP (Screening Tool of Older People's potentially inappropriate Prescriptions).

The following prescriptions are potentially inappropriate in persons aged ≥ 65 years of age

A. Cardiovascular System

1. Digoxin at a long-term dose > 125µg/day with impaired renal function* *(increased risk of toxicity)*.
2. Loop diuretic for dependent ankle oedema only i.e. no clinical signs of heart failure *(no evidence of efficacy, compression hosiery usually more appropriate)*.
3. Loop diuretic as first-line monotherapy for hypertension *(safer, more effective alternatives available)*.
4. Thiazide diuretic with a history of gout *(may exacerbate gout)*.
5. Non-cardioselective beta-blocker with Chronic Obstructive Pulmonary Disease (COPD) *(risk of bronchospasm)*.
6. Beta-blocker in combination with verapamil *(risk of symptomatic heart block)*.
7. Use of diltiazem or verapamil with NYHA Class III or IV heart failure *(may worsen heart failure)*.
8. Calcium channel blockers with chronic constipation *(may exacerbate constipation)*.
9. Use of aspirin and warfarin in combination without histamine H2 receptor antagonist (except cimetidine because of interaction with warfarin) or proton pump inhibitor *(high risk of gastrointestinal bleeding)*.
10. Dipyridamole as monotherapy for cardiovascular secondary prevention *(no evidence for efficacy)*.
11. Aspirin with a past history of peptic ulcer disease without histamine H2 receptor antagonist or Proton Pump Inhibitor *(risk of bleeding)*.
12. Aspirin at dose > 150mg day *(increased bleeding risk, no evidence for increased efficacy)*.
13. Aspirin with no history of coronary, cerebral or peripheral arterial symptoms or occlusive arterial event *(not indicated)*.
14. Aspirin to treat dizziness not clearly attributable to cerebrovascular disease *(not indicated)*.
15. Warfarin for first, uncomplicated deep venous thrombosis for longer than 6 months duration *(no proven added benefit)*.
16. Warfarin for first uncomplicated pulmonary embolus for longer than 12 months duration *(no proven benefit)*.
17. Aspirin, clopidogrel, dipyridamole or warfarin with concurrent bleeding disorder *(high risk of bleeding)*.

∗ estimated GFR <50ml/min.

B. Central Nervous System and Psychotropic Drugs

1. Tricyclic antidepressants (TCA's) with dementia *(risk of worsening cognitive impairment)*.
2. TCA's with glaucoma *(likely to exacerbate glaucoma)*.
3. TCA's with cardiac conductive abnormalities *(pro-arrhythmic effects)*.
4. TCA's with constipation *(likely to worsen constipation)*.
5. TCA's with an opiate or calcium channel blocker *(risk of severe constipation)*.
6. TCA's with prostatism or prior history of urinary retention *(risk of urinary retention)*.
7. Long-term (i.e. > 1 month), long-acting benzodiazepines e.g. chlordiazepoxide, fluazepam, nitrazepam, chlorazepate and benzodiazepines with long-acting metabolites e.g. diazepam *(risk of prolonged sedation, confusion, impaired balance, falls)*.
8. Long-term (i.e. > 1 month) neuroleptics as long-term hypnotics *(risk of confusion, hypotension, extra-pyramidal side effects, falls)*.
9. Long-term neuroleptics (> 1 month) in those with parkinsonism *(likely to worsen extra-pyramidal symptoms)*
10. Phenothiazines in patients with epilepsy *(may lower seizure threshold)*.
11. Anticholinergics to treat extra-pyramidal side-effects of neuroleptic medications *(risk of anticholinergic toxicity)*.
12. Selective serotonin re-uptake inhibitors (SSRI's) with a history of clinically significant hyponatraemia *(non-iatrogenic hyponatraemia <130mmol/l within the previous 2 months)*.
13. Prolonged use (> 1 week) of first generation antihistamines i.e. diphenydramine, chlorpheniramine, cyclizine, promethazine *(risk of sedation and anti-cholinergic side effects)*.

C. Gastrointestinal System

1. Diphenoxylate, loperamide or codeine phosphate for treatment of diarrhoea of unknown cause *(risk of delayed diagnosis, may exacerbate constipation with overflow diarrhoea, may precipitate toxic megacolon in inflammatory bowel disease, may delay recovery in unrecognised gastroenteritis)*.

Appendix 1 *continued*

2. Diphenoxylate, loperamide or codeine phosphate for treatment of severe infective gastroenteritis i.e. bloody diarrhoea, high fever or severe systemic toxicity *(risk of exacerbation or protraction of infection)*
3. Prochlorperazine (Stemetil) or metoclopramide with Parkinsonism *(risk of exacerbating Parkinsonism)*.
4. PPI for peptic ulcer disease at full therapeutic dosage for > 8 weeks *(earlier discontinuation or dose reduction for maintenance/prophylactic treatment of peptic ulcer disease, oesophagitis or GORD indicated)*.
5. Anticholinergic antispasmodic drugs with chronic constipation *(risk of exacerbation of constipation)*.

D. Respiratory System

1. Theophylline as monotherapy for COPD. *(safer, more effective alternative; risk of adverse effects due to narrow therapeutic index)*
2. Systemic corticosteroids instead of inhaled corticosteroids for maintenance therapy in moderate-severe COPD *(unnecessary exposure to long-term side-effects of systemic steroids)*.
3. Nebulised ipratropium with glaucoma *(may exacerbate glaucoma)*.

E. Musculoskeletal System

1. Non-steroidal anti-inflammatory drug (NSAID) with history of peptic ulcer disease or gastrointestinal bleeding, unless with concurrent histamine H2 receptor antagonist, PPI or misoprostol *(risk of peptic ulcer relapse)*.
2. NSAID with moderate-severe hypertension (moderate: 160/100mmHg – 179/109mmHg; severe: ≥180/110mmHg) *(risk of exacerbation of hypertension)*.
3. NSAID with heart failure *(risk of exacerbation of heart failure)*.
4. Long-term use of NSAID (>3 months) for relief of mild joint pain in osteoarthtitis *(simple analgesics preferable and usually as effective for pain relief)*
5. Warfarin and NSAID together *(risk of gastrointestinal bleeding)*.
6. NSAID with chronic renal failure* *(risk of deterioration in renal function)*. * estimated GFR 20-50ml/min.
7. Long-term corticosteroids (>3 months) as monotherapy for rheumatoid arthrtitis or osterarthritis *(risk of major systemic corticosteroid side-effects)*.
8. Long-term NSAID or colchicine for chronic treatment of gout where there is no contraindication to allopurinol *(allopurinol first choice prophylactic drug in gout)*

F. Urogenital System

1. Bladder antimuscarinic drugs with dementia *(risk of increased confusion, agitation)*.
2. Bladder antimuscarinic drugs with chronic glaucoma *(risk of acute exacerbation of glaucoma)*.
3. Bladder antimuscarinic drugs with chronic constipation *(risk of exacerbation of constipation)*.
4. Bladder antimuscarinic drugs with chronic prostatism *(risk of urinary retention)*.
5. Alpha-blockers in males with frequent incontinence i.e. one or more episodes of incontinence daily *(risk of urinary frequency and worsening of incontinence)*.
6. Alpha-blockers with long-term urinary catheter *in situ* i.e. more than 2 months *(drug not indicated)*.

G. Endocrine System

1. Glibenclamide or chlorpropamide with type 2 diabetes mellitus *(risk of prolonged hypoglycaemia)*.
2. Beta-blockers in those with diabetes mellitus and frequent hypoglycaemic episodes i.e. ≥ 1 episode per month *(risk of masking hypoglycaemic symptoms)*.
3. Oestrogens with a history of breast cancer or venous thromboembolism *(increased risk of recurrence)*
4. Oestrogens without progestogen in patients with intact uterus *(risk of endometrial cancer)*.

H. Drugs that adversely affect those prone to falls (≥ 1 fall in past three months)

1. Benzodiazepines *(sedative, may cause reduced sensorium, impair balance)*.
2. Neuroleptic drugs *(may cause gait dyspraxia, Parkinsonism)*.
3. First generation antihistamines *(sedative, may impair sensorium)*.
4. Vasodilator drugs known to cause hypotension in those with persistent postural hypotension i.e. recurrent > 20mmHg drop in systolic blood pressure *(risk of syncope, falls)*.
5. Long-term opiates in those with recurrent falls *(risk of drowsiness, postural hypotension, vertigo)*.

Appendix 1 *continued*

I. Analgesic Drugs

1. Use of long-term powerful opiates e.g. morphine or fentanyl as first line therapy for mild-moderate pain *(WHO analgesic ladder not observed)*.

2. Regular opiates for more than 2 weeks in those with chronic constipation without concurrent use of laxatives *(risk of severe constipation)*.
3. Long-term opiates in those with dementia unless indicted for palliative care or management of moderate/severe chronic pain syndrome *(risk of exacerbation of cognitive impairment)*.

J. Duplicate Drug Classes

Any regular duplicate drug class prescription e.g. two concurrent opiates, NSAID's, SSRI's, loop diuretics, ACE inhibitors *(optimisation of monotherapy within a single drug class should be observed prior to considering a new class of drug)*. This excludes duplicate prescribing of drugs that may be required on a prn basis e.g. inhaled beta2 agonists (long and short acting) for asthma or COPD, and opiates for management of breakthrough pain.