STOPP START Tool to Support Medication Review

Older people are known to be at greater risk of adverse effects from their medicines due to age related changes in pharmacokinetics and pharmacodynamics. Therefore, as a result of increasing age and frailty, some treatments may cause more harm than benefit.

Polypharmacy and inappropriate prescribing are well known risk factors for adverse drug reactions (ADRs), which commonly cause negative health outcomes in older people. [1]

There is a growing body of evidence showing that some drugs are associated with more adverse reactions and hospital admissions in the elderly[2,3]. Hence, reviewing these medications contributes to reduce problematic polypharmacy and address inappropriate prescribing in this group of patients.

NICE guidance on Medication Optimisation[4] recommends using a screening tool – for example the STOPP/START tool in older people – to identify potential inappropriate medication (STOPP criteria) and potential prescribing omissions (START criteria) for those on multiple medicines or with long term conditions.

This document is an adaptation of the

STOPP START medication review screening tool
(STOPP-Screening Tool of Older Persons Prescriptions START -Screening Tool to Alert doctors to Right i.e. appropriate, indicated Treatments)

Which consists of various criteria devised to identify potentially inappropriate medicines in older people. These criteria are based on an up-to-date literature review and consensus validation among a European panel of experts in geriatric pharmacotherapy[1,5].

Clinical guidelines and recommendations usually focus on starting treatments and/or managing single conditions without taking into consideration or addressing, for instance, how the ratio benefit/risk changes as the patient ages, or when it may be appropriate to stop or reduce the dose of a medication (particularly those ones used for preventing conditions).

The tool was validated in patients aged 65 and over but physicians must use their clinical judgement when deciding if a person is “elderly” in terms of using the toolkit and also consider other drug interactions or contra-indications not listed here.

The final decision to stop the drug should be weighed against the daily symptomatic benefit or prevention of rapid worsening of symptoms.

Where there is any doubt with the above information please check that it is in line with manufacturers recommendations, published literature or changes in national and local guidance. All Bristol, North Somerset and South Gloucestershire guidance can be found at http://www.bnssgformulary.nhs.uk/

South Gloucestershire version adapted by Raquel Iniesta, Care Homes Pharmacist South Gloucestershire Clinical Commissioning Group. Permission obtained to adapt from STOPP/START Tool V9 – Dr D O’Mahony (denis.omahony@ucc.ie). Acknowledgements also to NHS Wirral CCG STOPP/START Toolkit March 2015 (adapted with permission), Midlands & Lancashire CSU, NHS Cumbria STOPP/START Toolkit Feb 2013 & Leicestershire Medicines Strategy Group Nov 2014.

STOP medications (age ≥ 65 years)	Circumstances to review	Reason to review
α-blockers (i.e. alfuzosin, doxazosin, tamsulosin) and 5-alfa reductase inhibitors (i.e. finasteride, dutasteride)	Long-term urinary catheter in situ >2 months Males with frequent incontinence Hypotension/ Postural hypotension *Please note that some α- blockers e.g. doxazosin are also used to treat hypertension*	No longer indicated for the relief of benign prostatic hyperplasia (BPH) symptoms (i.e. urinary retention) Risk of urinary frequency and worsening of incontinence
Anti-anginal medication	Consider reducing, particularly if mobility has decreased with less need for medication Caution: Nitrates are potent coronary vasodilators Nicorandil and present ulceration	 Risk of unwanted effects such as flushing headache, hypotension, postural hypotension Nicorandil can cause serious skin, mucosal, and eye ulceration, including gastrointestinal ulcers which may progress to perforation, haemorrhage, fistula, or abscess. Stop nicorandil treatment if ulceration occurs—consider the need for alternative treatment or specialist advice if angina symptoms worsen https://www.gov.uk/drug-safety-update/nicorandil-ikorel-now-second-line-treatment-for-angina-risk-of-ulcer-complications
Antibiotics Review	Long term prophylactic antibiotics for UTI are not routinely recommended (including catheterised patients). C. difficile infection	Risk of adverse effects, including development of resistance. Antibiotic prescribing guidance available at: http://www.bnssgformulary.nhs.uk/includes/documents/Antimicrobial%20Rx%20Guidelines%20for%20BNSSG%202015%20version%203%20final..pdf To reduce recurrence first advise simple measures including hydration and cranberry products. Prophylactic antibiotics should be reviewed after 6 months and stopping should be considered. Patients should be reviewed at regular intervals to assess the risk/benefits in relation to C. difficile infection. Discontinue all antibiotics other than those prescribed for CDI Clostridium difficile in the Community Guideline available at: http://www.bnssgformulary.nhs.uk/includes/documents/Treatment%20of%20CDIv4.pdf
Anticholinergics **Minimise use wherever possible and review efficacy and tolerance regularly.** **(e.g. Hyoscine, Tolterodine Oxybutynin, Solifenacin, Trospium, Procyclidine, Trihexyphenidyl)**	To treat extra-pyramidal side-effects of antipsychotic medications Patients with dementia, chronic constipation, glaucoma or prostatic enlargement. To reduce muscarinic side effects of acetylcholinesterase inhibitors (AChEIs).	Elderly patients are more likely to experience adverse effects (including confusion, delirium, constipation, urinary retention, dry mouth/eyes, sedation, falls and cognitive impairment) Risk of worsening respective condition. Anticholinergic drugs directly oppose the action of AChEIs and adversely affects the course of dementia[6]. **Refer to Appendix1 for Anticholinergic Cognitive Burden Scale.** BNSSG joint formulary – Bladder and Urinary disorders http://www.bnssgformulary.nhs.uk/1-Bladder-and-urinary-disorders NICE CG171 Urinary Incontinence in Women https://www.nice.org.uk/guidance/cg171
Antidiarrhoeal drugs (co-phenotrope, loperamide or codeine phosphate)	For treatment of diarrhoea of unknown cause ***N.B. Please be aware of C. difficile in undiagnosed diarrhoea*** For the treatment of severe	Risk of delayed diagnosis, may exacerbate constipation with overflow diarrhoea, may precipitate toxic mega colon in inflammatory bowel disease, may delay recovery in unrecognised gastroenteritis Risk of colitis and toxic mega colon if Clostridium difficile

	infective gastroenteritis	Risk of exacerbation or protraction of infection
Antipsychotics ***NB. Reduce slowly monitoring effect***	>1 month use as long-term hypnotic (check notes for duration) >1 month use in parkinsonism If fallen in last 3 months >3 months treatment of behavioural and psychological symptoms of dementia patients (BPSD) and stable symptoms (review ongoing need)	Confusion, postural hypotension, extrapyramidal side effects, falls Risk of worsening extrapyramidal symptoms May cause gait dyspraxia, parkinsonism Risk of gait disturbances, dehydration, prolonged sedation, cognitive decline, falls, stroke and death. Priority groups for review: care home patients (more frail and BPSD more common than in general population) vascular dementia patients and dementia patients with a history of cardiovascular disease, cerebrovascular disease or vascular risk factors. Benefits are limited over longer periods (>12 weeks) Guidance from Alzheimer's society is available online at https://www.alzheimers.org.uk/site/scripts/services_info.php?serviceID=173 NICE guidelines: http://pathways.nice.org.uk/pathways/dementia
Antihistamines	First generation antihistamines (cyclizine, cholrphenamine, promethazine). If fallen in past 3 months Prolonged use	Risk of sedation and anti-cholinergic side effects
Aspirin	Dose >150mg / day, restart at 75mg if still indicated With a concurrent bleeding disorder Risk of gastrointestinal bleeding (e.g. peptic ulcer disease) without histamine H2 receptor antagonist or PPI Primary prevention of CVD If being used as monotherapy for stroke prevention in AF	Risk of bleeding; no evidence of increased efficacy High risk of bleeding Risk of bleeding Guidance for antiplatelet prescribing for primary and secondary prevention of CVD: http://cks.nice.org.uk/antiplatelet-treatment Guidance at: https://www.nice.org.uk/guidance/cg180
Benzodiazepines – *reduce slowly & monitor effect*	>1 month use of long-acting benzodiazepines, eg. chlordiazepoxide, oxazepam, diazepam, flurazepam, nitrazepam Regular and prolonged use If fallen in last 3 months	Risk of prolonged sedation, confusion, impaired balance, falls Benzodiazepines and Z drug withdrawal and insomnia guidelines available at: http://cks.nice.org.uk/insomnia In older people in particular, the magnitude of the beneficial effect of hypnotics may not justify the increased risk of adverse effects (such as cognitive impairment and increased risk of falls). The severity of withdrawal symptoms will depend on the degree of dependence. Abrupt discontinuation should be avoided. Reduce slowly and monitor effect.
Beta-blocker (Reduce gradually to avoid rebound effect)	In combination with verapamil In those with diabetes mellitus and frequent hypoglycaemic episodes	Risk of symptomatic heart block Risk of masking hypoglycaemic symptoms
Beta-blocker (non-	In patients with asthma	Risk of bronchospasm

cardioselective)		
Bisphosphonates (oral)	Unable to sit upright / patient experiencing swallowing difficulties / compliance issues Low risk of fractures A fracture occurred while on treatment After 5 years of treatment with oral medications or 3 years after parenteral (zoledronate)	Instruction for administration of medication if not followed causes increased risk of serious upper GI disorder For BNSSG osteoporosis drug holidays guidance: currently being updated Bisphosphonates accumulate in bone during treatment, and when stopped there is some residual protection against fractures. The length of this varies according to duration of therapy and which agent is being administered. Review recommended after 5years with alendronate, risendronate or ibandronate and after 3 years for zoledronate.
BP lowering drugs **Stop one at a time, maintaining the dose of the others without change. Restart them if BP increases[11]:** - ***Diastolic >90mm Hg*** - ***Systolic > 150mm Hg (160mm Hg if no organ damage)***	Consider need for and intensity of treatment in light of CVD risk, life expectancy and ADR risk If fallen in past 3 months and hypotension/postural hypotension present Postural Hypotension (abnormal decrease in blood pressure of at least 20 mm Hg systolic and 10 mm Hg diastolic within three minutes of standing upright) Withhold ACE inhibitors/ ARBs with severe risk of dehydration (e.g. vomiting/ diarroea)	Limited evidence supporting tight BP control in the older frail group *Seek specialist advice for patients with advanced heart failure as can decompensate rapidly off medication* Risk of syncope or falls Risk of falls Can be restarted when patient has improved (e.g. 24-48h of eating and drinking normally) https://www.thinkkidneys.nhs.uk/
Calcium Channel Blocker	If ankle oedema present Verapamil and diltiazem should usually be avoided in heart failure. Caution with Digoxin and Betablockers With chronic constipation Dihydropyridines- CAUTION: Avoid Nifedipine in CHD/CHF	This may be an adverse effect of the Calcium Channel Blocker see UKMI QA322 3_ankle oedema with CCBs (www.sps.nhs.uk) They may further depress cardiac function and cause clinically significant deterioration. Digoxin levels ↑↑ Enhanced hypotensive effect with Betablockers - Asystole, severe hypotension and heart failure with verapamile+betablockers – avoid - Possible severe hypotension and heart failure with nifedipine May exacerbate constipation Reflex tachycardia/ cardiopression
Carbocisteine	If no benefit after 4 weeks >1.5g/day Risk factors for peptic ulceration	Unnecessary if no benefit shown Over recommended maintenance dose May disrupt the gastric mucosa barrier (consider gastro-protection)
Clopidogrel	With concurrent bleeding disorder Aspirin/ Clopidogrel combination	High risk of bleeding Ensure reviewed as per cardiology advice (usually indicated for a max of 12 months after ACS only)

		BNSSG guidelines for co-prescribing anticoagulants and antiplatelets in primary care: www.bnssgformulary.nhs.uk/includes/documents/Combination%20doc%20271213.pdf BNSSG Guidelines for prescribing antiplatelets: www.bnssgformulary.nhs.uk/includes/documents/Guidelines%20for%20the%20Prescribing%20of%20Antiplatelets%20update%20Nov%202012%20081112SB.pdf
Corticosteroids **(Withdraw gradually if: use >3 weeks, >40mg prednisolone/day)**	Oral instead of inhaled corticosteroids for maintenance therapy in moderate-severe COPD Long term use (>3 weeks)	Unnecessary exposure to long-term side effects of systemic steroids. Risk of major systemic corticosteroids side effects Ensure use of steroids aligned with COPD GOLD guideline: www.bnssgformulary.nhs.uk/includes/documents/COPD%20guidelines%20-April%2016%20v6.pdf Guidance at http://cks.nice.org.uk/corticosteroids-oral
Digoxin	At doses >125 microgram per day with impaired renal function (eGFR <50ml/minute) With hypokalemia Pulse persistently below 60bpm	Risk of toxicity increased (e.g. nausea, diarrhoea, arrhythmias)
Dipyridamole	With concurrent bleeding disorder As monotherapy for cardiovascular secondary prevention	High risk of bleeding No evidence for efficacy except in ischaemic stroke. https://www.nice.org.uk/guidance/TA210/chapter/1-guidance Antiplatelet prescribing guidelines: http://cks.nice.org.uk/antiplatelet-treatment#!management
Diuretics	Dependent ankle oedema and no signs of heart failure As first line monotherapy for hypertension Thiazides with history of gout Advise patient to stop during intercurrent illness	No benefit; compression hosiery more appropriate. Consider medication causes, e.g. CCBs. Safer, more effective alternatives available Risk of exacerbating gout Restart when well (after 24-48h of eating and drinking normally) https://www.thinkkidneys.nhs.uk/
Domperidone	Indications except nausea/vomiting Long term Underlying Cardiac conditions, impaired cardiac conduction, co-prescribed other medications known to prolong QT interval or potent CYP3A4 inhibitors or with severe hepatic impairment	See MHRA warning issued https://www.gov.uk/drug-safety-update/domperidone-risks-of-cardiac-side-effects Duration of treatment: • The maximum treatment duration should not usually exceed one week • Patients currently receiving long-term treatment with domperidone should be reassessed at a routine appointment to advise on treatment continuation, dose change, or cessation
Ipratropium (nebulised)	Prescribing as required (prn) in addition to regular prescribing With glaucoma	Can lead to exceeding licensed dosage and therefore exacerbate side effects May exacerbate glaucoma
Laxatives – stimulant (e.g. bisacodyl, senna)	For patients with intestinal obstruction If >1 laxative: Do not stop abruptly. Reduce stimulant first and monitor effect	Risk of bowel perforation BNSSG joint formulary – Constipation and bowel cleansing http://www.bnssgformulary.nhs.uk/2-Constipation-and-bowel-cleansing
Metformin	Renal impairment: Review dose if eGFR <45 ml/min Avoid if eGFR<30ml/minute	Increased risk of lactic acidosis Guidance NG28, T2 diabetes in adults: management https://www.nice.org.uk/guidance/ng28

	Advise patient to stop during intercurrent illness	Restart when well (after 24-48h of eating and drinking normally) https://www.thinkkidneys.nhs.uk/
Metoclopramide	Long term use Parkinson's disease (domperidone more suitable but note contra-indications in cardiac disease and severe liver disease)	Licensed for a max of 5 days (does not apply to off label use in palliative care). https://www.gov.uk/drug-safety-update/metoclopramide-risk-of-neurological-adverse-effects The risks of neurological effects such as extrapyramidal disorders and tardive dyskinesia outweigh the benefits in long term or high dose treatment. Metoclopramide readily crosses the blood brain barrier, causing central effects such as sedation and dystonic reactions.
NSAID (oral)	Moderate severe hypertension (moderate 160/100mm Hg - 179/109mm Hg; severe: >180/110mm Hg CVD risk>20%, previous CVD events, heart failure. Age>65, on ACEI/ARBs and/or diuretics ("triple whammy"), CKD (GFR <60ml/min) or heart failure). GI ulcer, warfarin or new anticoagulants, steroids, SSRIs, high alcohol use On long-term NSAID and colchicine for chronic treatment of gout when there is no C/I to allopurinol Long-term NSAIDs as monotherapy (>3 month for arthritis) Cox-2 inhibitors and diclofenac in cardiovascular disease Ibuprofen (at total daily dose above 1200mg per day) in cardiovascular disease Advise patient to stop during intercurrent illness	Risk of exacerbation of hypertension Risk of exacerbation and cardiovascular ADRs Risk of deterioration in renal function and renal ADRs Gastro-intestinal ADRs (e.g. bleeding) If NSAIDs are essential: Consider gastro-protection with a PPI in those with GI risk factors Allopurinol first choice prophylactic in gout Simple analgesics preferable (paracetamol and topical NSAIDs should be considered ahead of systemic NSAIDs or COX-2 inhibitors) Increased risk of thrombotic events Increased risk of thrombotic events Restart when well (after 24-48h of eating and drinking normally) https://www.thinkkidneys.nhs.uk/
Oestrogen (systemic)	With history of breast cancer or venous thromboembolism Without progesterone in patients with intact uterus	Increased risk of reoccurrence Risk of endometrial cancer
Omega-3 fatty acids	Prescribed for secondary prevention of MI Primary or Secondary prevention of CVD For CVD prevention in patients with CKD and/or Diabetes (type 1 and 2)	Review as per -MI: cardiac rehabilitation and prevention of further CVD http://www.nice.org.uk/guidance/cg172/resources/guidance-mi-secondary-prevention-pdf -CVD:risk assessment and reduction, including lipid modification https://www.nice.org.uk/guidance/cg181 There is no evidence to support that omega-3 fatty acid compounds help to prevent CVD
Opioids (all type)	Long-term use of powerful opiates (e.g. morphine, fentanyl) as first line therapy for mild-moderate pain Regular prescription >2 weeks in chronic constipation without concurrent use of laxatives	WHO analgesic ladder not observed Cognitive impairment and respiratory depression, dependency www.bnssgformulary.nhs.uk/LocalGuidelines/ChronicPainGuidelines Risk of severe constipation

	Long-term in dementia unless for palliative care or management of chronic pain Recurrent Falls	Exacerbation of cognitive impairment Risk of drowsiness, postural hypotension, vertigo
Pioglitazone (glitazones)	Heart failure and elderly patients	Increased risk of fracture, bladder cancer and heart failure
Phenothiazines (e.g. Prochlorperazine)	With Parkinsonism	Risk of exacerbating Parkinsonism.
Quinine	Long term use	https://www.gov.uk/drug-safety-update/quinine-not-to-be-used-routinely-for-nocturnal-leg-cramps
SSRIs	If sodium less than 130 in past 2 months Citalopram & escitalopram – risk of QT prolongation Citalopram >20mg/day Escitalopram >10mg/day High risk of gastrointestinal bleeding	SSRIs can cause/worsen hyponatraemia Don't use in patients with congenital long QT syndrome or known pre-existing QT interval prolongation In combination with other drugs known to prolong the QT intervals BNSSG guidance: http://www.bnssgformulary.nhs.uk/includes/documents/Citalopram%20dose%20reduction%20flow%20chart%20based%20on%20advice%20from%20the%20MHRA%20version5.pdf Can increase risk of bleeding
Statins	Indications of shortened life expectancy[10], unless there is an acute vascular syndrome In patients displaying symptoms of muscle weakness and pain Consider review in light of comorbidities, polypharmacy, general frailty, life expectancy, patient preference and ADR risk	In the absence of a recent acute coronary syndrome or cerebrovascular event, the discontinuation of a statin toward the end of life is reasonable www.medicinesresources.nhs.uk/GetDocument.aspx?pageId=797557 Risk of myopathy and rhabdomyolysis. Check creatinine kinase if patient presents with muscular symptoms. Risks may outweigh potential benefits NICE CG181: Cardiovascular disease https://www.nice.org.uk/guidance/CG181
Sulfonylureas (particularly Glibenclamide or Chlorpropamide)	With Type 2 diabetes	Risk of prolonged hypoglycaemia
Theophylline	Monotherapy for COPD	Safer, more effective alternatives, risk of adverse effects due to narrow therapeutic index http://www.bnssgformulary.nhs.uk/includes/documents/COPD%20guidelines%20-April%2016%20v6.pdf
Tricyclic antidepressants ***NB. Withdraw gradually over at least 4 weeks – monitor effect***	Dementia Glaucoma Cardiac conductive abnormalities Constipation Combination with opiate or calcium channel blocker Prostatism or history of urinary retention Patients taking dosulepin	Risk of worsening cognitive impairment May exacerbate glaucoma if untreated Pro-arrhythmic effects May worsen constipation Risk of severe constipation Risk of urinary retention Increased cardiac risk & toxicity in overdose
Ulcer healing drugs	PPI and H2RAs: dose for PUD > 8 weeks (withdraw gradually to prevent	Earlier discontinuation or dose reduction for maintenance/prophylactic treatment of PUD, oesophagitis or GORD indicated. Increased risk of C. *difficile* infection, pneumonia, bone fractures,

	rebound hypersecretion of gastric acid) clopidogrel+ [es]omeprazole	hyponatremia and hypomagnesemia www.sps.nhs.uk/articles/clostridium-difficile-infection-is-use-of-proton-pump-inhibitors-a-risk-factor-2/ GORD and dyspepsia in adults: investigation&management: www.nice.org.uk/guidance/CG184/ MHRA Drug Safety Update 2010 advises that concurrent use should be discouraged due to reduced antiplatelet effect, see www.gov.uk/drug-safety-update/clopidogrel-and-proton-pump-inhibitors-interaction-updated-advice
Vasodilator drugs (e.g. hydralazine, minoxidil)	With persistent postural hypotension i.e. recurrent > 20 mmHG drop in Sys BP	Risk of syncope and falls
Warfarin	For 1st uncomplicated DVT or PE for longer than 3months Bleeding disorders, peptic ulcer, severe hypertension, severe renal impairment Hepatic impairment with impaired clotting ability and raised INR	At 3 months, assess the risks and benefits of continuing treatment, taking into account the patient's risk of VTE recurrence and whether they are at increased risk of bleeding. (www.nice.org.uk/guidance/cg144) Frequently Asked Questions about anticoagulation with Warfarin for GPs: http://www.bnssgformulary.nhs.uk/includes/documents/BNSSG%20%20Anticoagulation%20question%20and%20answers%20v5%20July%202013.pdf Increased risk of bleeding as a result of impaired ability to produce clotting factors
Any regular duplicate drug class prescription	E.g. Two concurrent opiates, multiple NSAIDs, multiple diuretics. Two or more anticholinergics (antimuscarinics)	Optimisation of monotherapy within a single drug class prior to considering a new drug class Increased risk of side-effects including confusion falls and death

START medications (age ≥ 65 years)	Circumstances
ACE Inhibitor	Chronic heart failure Following acute myocardial infarction Diabetes with nephropathy (e.g.overt urinalysis proteinuria or microalbuminuria (>30mg / 24 hours) ± serum biochemical renal impairment)
Antidepressants	In presence of moderate to severe depressive symptoms lasting at least three months SSRIs are in general better tolerated in patients with dementia and depression
Antihypertensive	Systolic blood pressure consistently >160mm Hg
Antipsychotic medication	Patients with a co-morbid mental illness (e.g. schizophrenia, persistent delusional disorder, psychotic depression or bipolar affective disorder) should not have this medication reduced without specialist advice[11]
Aspirin	Documented history of atherosclerotic coronary, cerebral or peripheral vascular disease in patients with sinus rhythm Following an acute MI
Beta-blocker (oral)	With chronic stable angina
Beta-agonist (inhaled)	For BNSSG COPD guidance: http://www.bnssgformulary.nhs.uk/includes/documents/COPD%20guidelines%20April%2016%20v6.pdf Review patients with mild, moderate or severe COPD at least once a year, and very severe COPD at least twice a year as per NICE guidance - http://www.nice.org.uk/guidance/cg101
Bisphosphonates	In patients taking maintenance oral corticosteroid therapy with previous fragility fractures or incident fractures during glucocorticoid therapy. Ensure there are no absorption interactions e.g. Calcium. Counsel patient on the correct way to take a bisphosphonate.
Calcium and vitamin D	In patients with known osteoporosis (radiological evidence or previous fragility fracture) or acquired dorsal kyphosis BNSSG guidelines for treatment of vitamin D deficiency in adults in Primary Care: www.bnssgformulary.nhs.uk/includes/documents/BNSSG%20CCG%20Vitamin_D_Prescribing_Guidelines%20Jan16.pdf
Clopidogrel	For ischaemic stroke or PVD as per http://www.nice.org.uk/guidance/ta210
DMARD	With active moderate-severe rheumatoid disease lasting >12 weeks
Fibre supplement	For chronic symptomatic diverticular disease with constipation
Laxatives	In patients taking opioids - to prevent constipation
Ulcer healing drugs (PPI, H2RA) **(clopidogrel+[es]omeprazole should be avoided due to reduced antiplatelet effect)**	For severe reflux or peptic stricture requiring dilatation The risk of bleeding is increased when low-dose aspirin is combined with other drugs that can increase the risk of bleeding. If these drugs are used concurrently with low-dose aspirin, consider the need for gastro-protection with a proton pump inhibitor (such as omeprazole) or a histamine antagonist (such as ranitidine). More information available at http://cks.nice.org.uk/antiplatelettreatment#!prescribinginfosub Drugs that can increase the risk of bleeding include: - **Antiplatelet drugs** (such as clopidogrel, prasugrel, or ticagrelor). - Nonsteroidal anti-inflammatory drugs (**NSAIDs**) (for example ibuprofen). - **Oral and parenteral anticoagulants** (for example warfarin or heparin). Low dose aspirin and oral anticoagulants are usually co-prescribed on the advice of a specialist. Close monitoring is required. - **SSRIs** (such as fluoxetine), venlafaxine, or duloxetine. Consider alternatives that may be safer, such as trazodone, mianserin, mirtazapine, or reboxetine. - Other drugs known to increase gastrointestinal bleeding (for example **corticosteroids**).
Statins	NICE CG181 (https://www.nice.org.uk/guidance/CG181) For older people (≥85) statins may be of benefit in reducing the risk of non-fatal

	myocardial infarction. Be aware of factors that may make treatment inappropriate (comorbidities, polypharmacy, general frailty, life expectancy (evidence shows that benefits of statins are seen at the earliest after 2 years of therapy), patient preference and ADR risk) Primary prevention of CVD when 10% or greater 10-year risk of developing CVD. (Estimate the level of risk using the QRISK2 assessment tool) Adults with T1 diabetes who are older than 40 years **or** have had diabetes for more than 10 years **or** have established nephropathy **or** have other CVD risk factors CKD and Secondary prevention of CVD (documented history of coronary, cerebral or peripheral vascular disease)
Anticoagulation (warfarin or a NOAC)	Chronic atrial fibrillation as per http://www.nice.org.uk/guidance/cg180 Following diagnosis of DVT and PE if benefit outweighs the risk of treatment For BNSSG guidelines: http://www.bnssgformulary.nhs.uk/Local-Guidelines/

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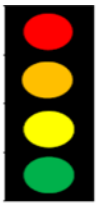
APPENDIX 1

South London and Maudsley NHS
NHS Foundation Trust

Mental Health of Older Adults and Dementia Clinical Academic Group



Limited data so unable to score		Drugs with AEC score of 0		Drugs with AEC score of 1	Drugs with AEC score of 2	Drugs with AEC score of 3
Alendronic Acid	Ramipril	Alprazolam	Lovastatin	Amiodarone	Amantadine	Alimemazine (trimeprazine)
Allopurinol	Rivaroxaban	Amlodipine	Lurasidone	Aripiprazole	Chlorphenamine	Amitriptyline
Anastrozole	Rosuvastatin	Amoxycillin	Meloxicam	Bromocriptine	Desipramine	Atropine
Apixaban	Spironolactone	Aspirin	Metoclopramide	Carbamazepine	Dicycloverine (dicyclomine)	Benztropine
Baclofen	Tamoxifen	Atenolol	Metoprolol	Citalopram	Dimenhydrinate	Chlorpromazine
Bisoprolol	Topiramate	Atorvastatin	Moclobemide	Diazepam	Diphenhydramine	Clemastine
Bumetanide	Tizanidine	Buproprion	Morphine	Domperidone	Disopyramide	Clomipramine
Captopril	Verapamil	Cepahlexin	Naproxen	Fentanyl	Levomepromazine (methotrimeprazine)	Clozapine
Carbimazole	Zopiclone	Cetirizine	Omeprazole	Fluoxetine	Olanzapine	Cyproheptadine
Carvedilol	Zotepine*	Chlordiazepoxide	Paracetamol	Fluphenazine	Paroxetine	Dothiepin
Chlortalidone		Cimetidine	Pantoprazole	Hydroxyzine	Pethidine	Doxepin
Clarithromycin		Ciprofloxacin	Pravastatin	Iloperidone	Pimozide	Hyoscine hydrobromide
Clonazepam		Clopidogrel	Propranolol	Lithium	Prochlorperazine	Imipramine
Codeine		Darifenacin	Rabeprazole	Mirtazapine	Promazine	Lofepramine
Colchicine		Diclofenac	Ranitidine	Perphenazine	Propantheline	Nortriptyline
Dabigatran		Diltiazem	Risperidone	Prednisolone	Quetiapine	Orphenadrine
Dexamethasone		Enalapril	Rosiglitazone	Quinidine	Tolterodine	Oxybutynin
Dextropropoxyphene		Entacapone	Simvastatin	Sertindole	Trifluoperazine	Procyclidine
Digoxin		Fexofenadine	Theophylline	Sertraline		Promethazine
Erythromycin		Fluvoxamine	Thyroxine	Solifenacin		Trihexyphenidryl (benzhexol)
Flavoxate*		Furosemide	Tramadol	Temazepam		Trimipramine
Hydrocodone		Gabapentin	Trazodone			
Irbesartan		Gliclazide	Trimethoprim			
Lansoprazole		Haloperidol	Trospium			
Levetiracetam		Ibuprofen	Venlafaxine			
Metformin		Ketorolac	Valproate			
Methocarbamol		Lamotrigine	Warfarin			
Methotrexate		Levadopa	Ziprasidone			
Nitrofurantoin		Lisinopril	Zolpidem			
Oxcarbazepine		Loperamide				
Oxycodone		Loratadine				
Phenytoin		Lorazepam				
Pregabalin		Losartan				

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*AEC- Anticholinergic effect on cognition.