

Risk description in STU	Description	Denominator definition	Numerator definition
Bleeding	Patient aged 65 or older on aspirin is prescribed clopidogrel <u>WITHOUT gastroprotection</u>	Patient on aspirin (active repeat OR issued in last 84 days)	On clopidogrel (active repeat OR issued in last 84 days) but NOT on gastroprotection (issued in last 84 days)
	Patient on an oral anticoagulant is prescribed an antiplatelet (irrespective of gastroprotection)	Patient on oral anticoagulant (active repeat OR issued in last 84 days)	On antiplatelet (active repeat OR issued in last 84 days)
	Patient with eGFR ≤ 30 ml/min/1.73m ² is prescribed a direct thrombin inhibitor (irrespective of gastroprotection)	Patient with one of the following: CKD stage 4 or 5 or latest eGFR showing eGFR <30 ml/min	On direct thrombin inhibitor (active repeat OR issued in last 84 days)
	Patient with eGFR ≤ 30 ml/min/1.73m ² is prescribed a factor Xa inhibitor (irrespective of gastroprotection)	Patient with one of the following: CKD stage 4 or 5 or latest eGFR showing eGFR <30 ml/min	On factor Xa inhibitor (active repeat OR issued in last 84 days)
	Patient on an oral anticoagulant has uncontrolled severe hypertension (irrespective of gastroprotection)	On oral anticoagulant (active repeat OR issued in last 84 days)	Patient with BP measurement in previous 364d and latest SBP >160 or latest DBP >100
	Patient with a history of peptic ulcer is prescribed an antiplatelet <u>WITHOUT gastroprotection</u>	Patient with a history of gastrointestinal ulcer	On antiplatelet (active repeat OR issued in last 84 days) but not on gastroprotection
	Patient with a history of peptic ulcer is prescribed an NSAID (irrespective of gastroprotection)	Patient with a history of gastrointestinal ulcer	On any non-topical NSAID (active repeat OR issued in last 84 days)
	Patient aged ≥ 75 years is prescribed an NSAID <u>WITHOUT gastroprotection</u>	Patient aged 75 and older	On any non-topical NSAID (active repeat OR issued in last 84 days)
	Patient on an antiplatelet drug is prescribed an NSAID (irrespective of gastroprotection)	Patient on antiplatelet (active repeat OR issued in last 84 days)	On any non-topical NSAID (active repeat OR issued in last 84 days)
	Patient on an oral anticoagulant is prescribed an NSAID (irrespective of gastroprotection)	Patient on oral anticoagulant (active repeat OR issued in last 84 days)	On any non-topical NSAID (active repeat OR issued in last 84 days)
Patient on an oral corticosteroid is prescribed an NSAID (irrespective of gastroprotection)	Patient on oral corticosteroid (active repeat OR issued in last 84 days)	On any non-topical NSAID (active repeat OR issued in last 84 days)	
Bloods	Patient with eGFR ≤ 10 is prescribed colchicine	Patient with one of the following: CKD stage 5 or eGFR measurement recorded in previous 364d and latest eGFR showing eGFR <10 ml/min	On colchicine (active repeat OR issued in last 84 days)
	Patient on methotrexate is not prescribed folic acid	Patient on methotrexate (active repeat OR issued in last 84 days)	NOT on folic acid (not on active repeat and not issued in last 84 days)
	Patient on methotrexate is on two different strengths of methotrexate tablets	Patient on methotrexate (active repeat OR issued in last 84 days)	On methotrexate 2.5mg strength (active repeat OR issued in last 84 days) and on methotrexate 10mg strength
	Patient on methotrexate is co-prescribed trimethoprim on repeat	Patient on methotrexate (active repeat OR issued in last 84 days)	On trimethoprim (active repeat)
Cardiac	Patient on a beta blocker is prescribed verapamil or diltiazem	Patient on BB (active repeat OR issued in last 84 days)	On verapamil or diltiazem (active repeat OR issued in last 84 days)
	Patient with heart failure is prescribed verapamil or diltiazem	Patient with heart failure	On verapamil or diltiazem (active repeat OR issued in last 84 days)
	Patient with eGFR ≤ 60 is prescribed digoxin at a dose >125 mcg/day	Patient with CKD or last eGFR <60 ml/min and prescribed digoxin (active repeat OR issued in last 84 days)	On digoxin tablets with >125 mcg strength (active repeat OR issued in last 84 days)
	Patient with heart failure but without AF and on digoxin is prescribed digoxin of strength >125 mcg	Patient with heart failure and without AF and prescribed digoxin (active repeat OR issued in last 84 days)	On digoxin tablets with >125 mcg strength (active repeat OR issued in last 84 days)
	Patient with heart failure is prescribed a glitazone	Patient with a history of heart failure	On glitazone (active repeat OR issued in last 84 days)
	Patient with heart failure is prescribed an NSAID	Patient with heart failure	On any non-topical NSAID (active repeat OR issued in last 84 days)
	Patient on a nitrate or nicorandil is prescribed a phosphodiesterase type 5 inhibitor	On nitrate or nicorandil (active repeat OR issued in last 84 days)	On Phosphodiesterase type-5 inhibitor (active repeat OR issued in last 84 days)
	Patient on verapamil is prescribed digoxin at a dose >125 mcg/day	Patient on verapamil and digoxin (both active repeat OR issued in last 84 days)	On digoxin tablets with >125 mcg strength (active repeat OR issued in last 84 days)
	Patient is prescribed a betablocker and has a pulse of <60 bpm	Patient is prescribed a betablocker (active repeat OR issued in last 84 days)	Last pulse is <60 bpm

Polypharmacy Indicators

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	Patient is prescribed an acetylcholinesterase inhibitor and has a pulse of <60bpm	Patient aged older and is prescribed an acetylcholine esterase inhibitor (active repeat OR issued in last 84 days)	Last pulse is <60bpm
	Patient is prescribed digoxin and has a pulse of <60bpm	Patient is prescribed digoxin (active repeat OR issued in last 84 days)	Last pulse is <60bpm
CVDevents	Patients aged 65 years or older with dementia is prescribed an antipsychotic	Patients aged 65 years or older with dementia	On an antipsychotic
	Female patient with a history of venous thromboembolism is prescribed an oestrogen	Female patient with a history of venous thromboembolism	On oestrogen (active repeat OR issued in last 84 days)
	Patient with AF and CHADSVASC score >=3 is not prescribed an oral anticoagulant	Patient with AF and CHADSVASC score >=3	NOT on an oral anticoagulant (issued in last 84 days)
Dependency	Patient is prescribed an opioid at an average daily dose equivalent to >180mg morphine per day over the previous 6 months	Patient is prescribed an opioid (active repeat OR issued in last 84 days)	On an opioid at an average daily dose equivalent to >180mg morphine per day over the previous 6 months (active repeat OR issued in last 84 days)
	Patient is prescribed gabapentin or pregabalin at an average daily dose of >4800mg gabapentin per day over the previous 6 months	Patient is prescribed gabapentin or pregabalin (active repeat OR issued in last 84 days)	On gabapentin or pregabalin at an average daily dose of >4800mg gabapentin per day over the previous 6 months (active repeat OR issued in last 84 days)
ExtraPS	Patient prescribed levodopa is prescribed metoclopramide or prochlorperazine on repeat	On levodopa (active repeat OR issued in last 84 days)	On prochlorperazine or metoclopramide (active repeat)
	Female patient with a history of breast cancer is prescribed an oestrogen	Patient with a history of breast cancer	On oestrogen (active repeat OR issued in last 84 days)
	Female patient with intact uterus is prescribed an oestrogen without progestogen	Female patient aged 60 years or older	On oestrogen (active repeat OR issued in last 84 days)
	Patient aged 65 years or older is prescribed metoclopramide on repeat	Patient aged 65 years or older	on metoclopramide on active repeat
Falls	Patient aged 75 years or older is prescribed a steroid long term without co-prescription of a bone protecting agent	Patient aged 75 years and older on an oral steroid (active repeat)	Not on a bisphosphonate, vitamin D or calcium (issued in last 84 days)
	Patient with dementia is prescribed TWO or more drugs with significant sedating or anticholinergic effects (excluding drugs only used for epilepsy)	Patient with dementia	On TWO or more drugs with significant sedating or anticholinergic effects (excluding drugs only used for epilepsy)
	Patient without dementia aged 65 years or older is prescribed THREE or more drugs with significant sedating or anticholinergic effects (excluding drugs only used for epilepsy)	Patient without dementia aged 65 years or older	On THREE or more drugs with significant sedating or anticholinergic effects (excluding drugs only used for epilepsy) (active repeat OR issued in last 84 days)
	Patient without dementia aged 75 years or older is prescribed TWO or more drugs with significant sedating or anticholinergic effects (excluding drugs only used for epilepsy)	Patient without dementia aged 75 years or older	On TWO or more drugs with significant sedating or anticholinergic effects (excluding drugs only used for epilepsy) (active repeat OR issued in last 84 days)
HyperCa++	Patient on a thiazide diuretic has hypercalcaemia (i.e. corrected serum calcium > 2.65 mmol/l)	Patient on a thiazide (active repeat or issued in last 84d)	Last calcium>2.65
	Patient on an ACEI or ARB is prescribed a potassium supplement	Patient on an ACEI or ARB (active repeat or issued in last 84d)	On potassium salt (active repeat OR issued in last 84 days)
	Patient on an ACEI or ARB, potassium sparing diuretic, aliskiren or potassium supplement has hyperkalaemia (last K >5.5 mmol/l)	Patient on ACEI or ARB, potassium sparing diuretic or aldosterone antagonists), or aliskiren or potassium supplement (Active repeat OR issued in last 84d)	Last potassium >5.5
	Patient on an ACEI or ARB is prescribed a combination of ACEI and ARB	Patient on an ACEI or ARB (active repeat or issued in last 84d)	On a combination of ACEI and ARB (both active repeat OR issued in last 84 days)
	Patient on an ACEI or ARB is prescribed a combination of potassium sparing diuretic and aliskiren	Patient on an ACEI or ARB (active repeat OR issued in last 84 days)	On a potassium sparing diuretic and aliskiren (both active repeat OR issued in last 84 days)

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HyperK+	Patient with eGFR <30 is prescribed amiloride or triamterene	Patient with documented CKD stage 4 or 5 or latest eGFR <30 ml/min	On amiloride or triamterene (active repeat OR issued in last 84 days)
	Patient with eGFR <30 is prescribed spironolactone or eplerenone	Patient with documented CKD stage 4 or 5 or latest eGFR <30 ml/min	On spironolactone or eplerenone (active repeat OR issued in last 84 days)
	Patient with eGFR <30 is prescribed aliskiren	Patient with documented CKD stage 4 or 5 or latest eGFR <30 ml/min	On aliskiren (active repeat OR issued in last 84 days)
	Patient with eGFR <30 is prescribed a potassium supplement	Patient with documented CKD stage 4 or 5 or latest eGFR <30 ml/min	On a potassium supplement (active repeat OR issued in last 84 days)
	Patient with eGFR <30 is prescribed trimethoprim	Patient with documented CKD stage 4 or 5 or latest eGFR <30 ml/min	On trimethoprim (active repeat OR issued in last 84 days)
Hypoglyc	Patient is prescribed insulin without being prescribed glucose test strips	Patient is prescribed insulin (active repeat OR issued in last 84 days)	Not on glucose test strips (active repeat OR issued in last 84 days)
	Patient with dementia is on intensive hypoglycaemic therapy and glycaemic control is <53 (7.0%)	Patient with diabetes type 2 and dementia	Last HbA1c is <53 (7.0%) and on one or more of (all on active repeat or issued in last 84D): sulfonylurea, gliptin, meglitinide, GLP1RA, insulin
	Patient aged 65 or older without dementia is on intensive hypoglycaemic therapy and HbA1c is <48 (<6.5%)	Patient aged 65 or older with diabetes type 2 but without dementia	On intensive hypoglycaemic therapy (active repeat OR issued in last 84 days) and last HbA1c is <48 (<6.5%)
	Patient aged 75 or older without dementia is on intensive hypoglycaemic therapy and HbA1c is <53 (7.0%)	Patient aged 75 or older with diabetes type 2 but without dementia	On intensive hypoglycaemic therapy (active repeat OR issued in last 84 days) and last HbA1c is <53 (7.0%)
HypoK+	Patient prescribed digoxin has hypokalaemia	On digoxin tablets (active repeat OR issued in last 84 days)	Patient with a record of potassium measurement in the previous 364d and the latest measurement showing <3
	Patient prescribed a thiazide diuretic has hypokalaemia (i.e. serum K+ < 3.0 mmol/l)	Patient on a thiazide (active repeat or issued in last 84d)	Last potassium <3.0
	Patient prescribed a loop diuretic has hypokalaemia (i.e. serum K+ < 3.0 mmol/l)	Patient prescribed a loop diuretic (active repeat OR issued in last 84 days)	Last potassium < 3.0 mmol/l
HypoNa+	Patient on an SSRI has hyponatraemia (Na+ < 130 mmol/l)	Patient on an SSRI (active repeat or issued in last 84d)	Last sodium < 130 mmol/l
	Patient prescribed a thiazide diuretic has hyponatraemia (i.e. serum Na+ < 130 mmol/l)	Patient on a thiazide (active repeat or issued in last 84d)	Last sodium < 130 mmol/l
	Loop diuretic prescribed to a patient with hyponatraemia (i.e. serum Na+ < 130 mmol/l)	Patient prescribed a loop diuretic (active repeat OR issued in last 84 days)	Last sodium < 130 mmol/l
LactAcid	Patient with eGFR<30 is prescribed metformin	Patient with one of the following: CKD stage 4 or 5 or latest eGFR showing eGFR<30ml/min	On metformin (active repeat OR issued in last 84 days)
LowBP	Patient without heart failure is on BP lowering treatment and BP is <110/65mmHg	Patient aged 75 and older without heart failure	Last SBP <110 or last DBP<65 and on any of (on active repeat or issued in previous 84d): ACEI, ARB, BB, thiazide, CCB, ALPHABLOCKER, NITRATE_BPLowering, CentralAntiHTN
	Patient with dementia is on 2 or more BP lowering drugs and BP is <130/75mmHg	Patient with dementia and hypertension	On 2 or more BP lowering drugs (both active repeat OR issued in last 84 days) and BP is <130/75mmHg
Neurotox.	Patient on lithium is prescribed an NSAID	Patient on lithium (active repeat OR issued in last 84 days)	On an NSAID (active repeat OR issued in last 84 days)
	Patient on lithium has recently been started on a thiazide diuretic	Patient on lithium (active repeat OR issued in last 84 days)	Thiazide diuretic issued in previous 84 days and no thiazide diuretic issued in previous 85 to 168 days
Renal	Patient on an ACEI/ARB and a diuretic is prescribed an NSAID	Patient on a diuretic (active repeat OR issued in last 84 days) and ACEI or ARB (active repeat OR issued in last 84 days)	On any non-topical NSAID (active repeat OR issued in last 84 days)
	Patient with eGFR q30 is prescribed an NSAID	Patient with one of the following: CKD stage 4 or 5 or latest eGFR showing eGFR<30ml/min	On any non-topical NSAID (active repeat OR issued in last 84 days)
	Patient with eGFR q60 and on an ACEI or ARB is prescribed an NSAID	Patient on an ACEI or ARB (active repeat OR issued in last 84 days) and with one of the following: CKD stage 3,4 or 5 or latest eGFR showing eGFR<60ml/min	On any non-topical NSAID (active repeat OR issued in last 84 days)

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	Patient with eGFR <60 and on a diuretic is prescribed an NSAID	Patient on a diuretic (active repeat OR issued in last 84 days) and with one of the following: CKD stage 3,4 or 5 or latest eGFR showing eGFR<60ml/min	On any non-topical NSAID (active repeat OR issued in last 84 days)
Respiratory	Patient with asthma requiring treatment is prescribed a non-selective beta-blocker (oral or topical)	Patient with asthma and on SABA (issued in last 84 days)	On non-cardioselective BB (active repeat OR issued in last 84 days)