description in STU	Description	Denominator definition	Numerator definition
	Patient aged 65 or older on aspirin is prescribed clopidogrel	Patient on aspirin (active repeat OR issued in last 84 days)	On clopidogrel (active repeat OR issued in last 84 days) but NO
	WITHOUT gastroprotection		on gastroprotection (issued in last 84 days)
	Patient on an oral anticoagulant is prescribed an antiplatelet	Patient on oral anticoagulant (active repeat OR issued in last 84	On antiplatelet (active repeat OR issued in last 84 days)
	(irrespective of gastroprotection)	days)	
	Patient with eGFR q30 ml/min/1.73m2 is prescribed a direct	Patient with one of the following: CKD stage 4 or 5 or latest eGFR	On direct thrombin inhibitor (active repeat OR issued in last 84
	thrombin inhibitor (irrespective of gastroprotection)	showing eGFR<30ml/min	days)
	Patient with eGFR q30 ml/min/1.73m2 is prescribed a factor Xa	Patient with one of the following: CKD stage 4 or 5 or latest eGFR	On factor Xa inhibitor (active repeat OR issued in last 84 days)
	inhibitor (irrespective of gastroprotection)	showing eGFR<30ml/min	
	Patient an oral anticoagulant has uncontrolled severe	On oral anticoagulant (active repeat OR issued in last 84 days)	Patient with BP measurement in previous 364d and latest
	hypertension (irrespective of gastroprotection)		SBP>160 or latest DBP>100
Bleeding	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 no gastroprotection
	Patient with a history of peptic ulcer is prescribed an NSAID	Patient with a history of gastrointestinal ulcer	On any non-topical NSAID (active repeat OR issued in last 84
	(irrespective of gastroprotection)	, ,	days)
	Patient aged ≥75 years is prescribed an NSAID <u>WITHOUT</u>	Patient aged 75 and older	On any non-topical NSAID (active repeat OR issued in last 84
	gastroprotection		days)
	Patient on an antiplatelet drug is prescribed an NSAID	Patient on antiplatelet (active repeat OR issued in last 84 days)	On any non-topical NSAID (active repeat OR issued in last 84
	(irrespective of gastroprotection)	attent on unaplacetet (usaire repeat on issued in last or adys)	days)
	Patient on an oral anticoagulant is prescribed an NSAID	Patient on oral anticoagulant (active repeat OR issued in last 84	On any non-topical NSAID (active repeat OR issued in last 84 c
	(irrespective of gastroprotection)	days)	detive repeat on issued in last 64 t
	Patient on an oral corticosteroid is prescribed an NSAID	Patient on oral corticosteroid (active repeat OR issued in last 84	On any non-topical NSAID (active repeat OR issued in last 84 of
	(irrespective of gastroprotection)	days)	detive repeat on issued in last 64 t
			On collabilities (setting report OR issued in last 04 days)
	Patient with eGFR q10 is prescribed colchicine	Patient with one of the following: CKD stage 5 or eGFR	On colchicine (active repeat OR issued in last 84 days)
		measurement recorded in previous 364d and latest eGFR showing	
	Datient on moth strength is not assemble difficulties	eGFR<10ml/min	NOT on folio acid (not on orbits monot and not issued in location
Bloods	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 8 days)
bioous	Patient on methotrexate is on two different strengths of	Patient on methotrexate (active repeat OR issued in last 84 days)	
	methotrexate tablets	ratient on methodiexate (active repeat ON issued in last 64 days)	84 days) and on methotrexate 10mg strength
		Datient on methotroyate (active repeat OB issued in last 94 days)	
	Patient on methotrexate is co-prescribed trimethoprim on repeat	Patient on methotrexate (active repeat OR issued in last 84 days)	On trimethoprim (active repeat)
	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 o
	Patient with heart failure is prescribed verapamil or diltiazem	Patient with heart failure	On verapamil or diltiazem (active repeat OR issued in last 84 of
	Patient with eGFR q60 is prescribed digoxin at a dose >125	Patient with CKD or last eGFR<60ml/min and prescribed digoxin	On digoxin tablets with >125mcg strength (active repeat OR
	mcg/day	(active repeat OR issued in last 84 days)	issued in last 84 days)
	Patient with heart failure but without AF and on digoxin is	Patient with heart failure and without AF and prescribed digoxin	On digoxin tablets with >125mcg strength (active repeat OR
	prescribed digoxin of strength >125 mcg	(active repeat OR issued in last 84 days)	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
Cardiac	· ·		
	Patient on a nitrate or nicorandil is prescribed a	On nitrate or nicorandil (active repeat OR issued in last 84 days)	On Phosphodiesterase type-5 inhibitor (active repeat OR iss
	phosphodiasterase type 5 inhibitor	(active repeat on issued in last or days)	in last 84 days)
		Patient on verapamil and digoxin (both active repeat OR issued in	On digoxin tablets with >125mcg strength (active repeat OR
	TPALLED LOD VELADAMILIS DESCENDED DISDISIDIAL A DOSESTIZS MEGANAV		TO IT GISOMITE LADICES WILLIF TESTITUS SUICHSUITUULIVE TESTER UN
	Patient on verapamil is prescribed digoxin at a dose>125 mcg/day		
	Patient on verapamil is prescribed digoxin at a dose>125 mcg/day Patient is prescribed a betablocker and has a pulse of <60bpm	last 84 days) Patient is prescribed a betablocker (active repeat OR issued in	issued in last 84 days) Last pulse is <60bpm

Risk description in STU	Description	Denominator definition	Numerator definition
	Patient is prescribed an acetylcholinesterase inhibitor and has a	Patient aged older and is prescribed an acetylcholine esterase	Last pulse is <60bpm
	pulse of <60bpm	inhibitor (active repeat OR issued in last 84 days)	
	Patient is prescribed digoxin and has a pulse of <60bpm	Patient is prescribed digoxin (active repeat OR issued in last 84	Last pulse is <60bpm
		days)	
	Patients aged 65 years or older with dementia is prescribed an	Patients aged 65 years or older with dementia	On an antipsychotic
	antipsychotic		
CVD assemble	Female patient with a history of venous thromboembolism is	Female patient with a history of venous thromboembolism	On oestrogen (active repeat OR issued in last 84 days)
CVDevents	prescribed an oestrogen		
	Patient with AF and CHADSVASC score >= 3 is not prescribed an	Patient with AF and CHADSVASC score >=3	NOT on an oral anticoagulant (issued in last 84 days)
	oral anticoagulant		
	Patient is prescribed an opioid at an average daily dose	Patient is prescribed an opioid (active repeat OR issued in last 84	On an opioid at an average daily dose equivalent to >180mg
	equivalent to >180mg morphine per day over the previous 6	days)	morphine per day over the previous 6 months (active repeat OR
	months		issued in last 84 days)
Dependency	Patient is prescribed gabapentin or pregabilin at an average daily	Patient is prescribed gabapentin or pregabilin (active repeat OR	On gabapentin or pregabalin at an average daily dose of >4800m
		issued in last 84 days)	gabapentin per day over the previous 6 months (active repeat O
	66.11p. 11p. 11p. 11p. 11p. 11p. 11p. 11		issued in last 84 days)
	Patient prescribed levodopa is prescribed metoclopramide or	On levodopa (active repeat OR issued in last 84 days)	On prochlorperazine or metoclopramide (active repeat)
	prochlorperazine on repeat		
	Female patient with a history of breast cancer is prescribed an	Patient with a history of breast cancer	On oestrogen (active repeat OR issued in last 84 days)
	oestrogen	,	
ExtraPS	Female patient with intact uterus is prescribed an oestrogen	Female patient aged 60 years or older	On oestrogen (active repeat OR issued in last 84 days)
	without progestogen		
	Patient aged 65 years or older is prescribed metoclopramide on	Patient aged 65 years or older	on metoclopramide on active repeat
	repeat		
	Patient aged 75 years or older is prescribed a steroid long term	Patient aged 75 years and older on an oral steroid (active repeat)	Not on a bisphosphonate, vitamin D or calcium (issued in last 84
	without co-prescription of a bone protecting agent		days)
	Patient with dementia is prescribed TWO or more drugs with	Patient with dementia	On TWO or more drugs with significant sedating or anticholinerg
	significant sedating or anticholinergic effects (excluding drugs only		effects (excluding drugs only used for epilepsy)
	used for epilepsy)		and the second of the second o
	Patient without dementia aged 65 years or older is prescribed	Patient without dementia aged 65 years or older	On THREE or more drugs with significant sedating or
Falls	THREE or more drugs with significant sedating or anticholinergic		anticholinergic effects (excluding drugs only used for epilepsy)
	effects (excluding drugs only used for epilepsy)		(active repeat OR issued in last 84 days)
	enests (enestaining an ago eniny asset for epinepsy)		
	Patient without dementia aged 75 years or older is prescribed	Patient without dementia aged 75 years or older	On TWO or more drugs with significant sedating or anticholinerg
	TWO or more drugs with significant sedating or anticholinergic	autient menous demendia aged 75 years or older	effects (excluding drugs only used for epilepsy) (active repeat OI
	effects (excluding drugs only used for epilepsy)		issued in last 84 days)
	enests (excluding drugs only used for epilepsy)		issued in last of adys,
	Patient on a thiazide diuretic has hypercalcaemia (i.e. corrected	Patient on a thiazide (active repeat or issued in last 84d)	Last calcium>2.65
HyperCa++	serum calcium > 2.65 mmol/l)	addition a unazide (delive repeat or issued in last ora)	Lust cardani 2.03
	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)
	i attent on an Acti of And is prescribed a potassium supplement	ations on an Acti of AND (active repeat of issued in last 640)	Dir potassium sait (active repeat On issued in last 04 days)
	Patient on an ACEI or ARB, potassium sparing diuretic, aliskiren or	Patient on ACEI or ARB, potassium sparing diuretic or aldosterone	Last notassium >5 5
	potassium supplement has hyperkalaemia (last K >5.5 mmol/l)	antagonists), or aliskiren or potassium supplement (Active repeat	Least potassium >3.3
	potassium supplement has hyperkalaemia (last k >5.5 mmlol/l)	OR issued in last 84d)	
	Patient on an ACEI or ARB is prescribed a combination of ACEI and	,	On a combination of ACEI and ARB (both active repeat OR issue
	· ·	ration on an Acti of And (active repeat of issued in last 840)	· · · · · · · · · · · · · · · · · · ·
	ARB Patient on an ACEL or APP is prescribed a combination of	Datient on an ACEL or APP Jactive repeat OP issued in last 04	in last 84 days)
	Patient on an ACEI or ARB is prescribed a combination of	Patient on an ACEI or ARB (active repeat OR issued in last 84	On a potassium sparing diuretic and aliskiren (both active repea
	potassium sparing diuretic and aliskiren	days)	OR issued in last 84 days)

sk description in STU	Description	Denominator definition	Numerator definition
HyperK+	Patient with eGFR <30 is prescribed amiloride or triamterene	Patient with documented CKD stage 4 or 5 or latest eGFR <30	On amiloride or triamterene (active repeat OR issued in last 84
		ml/min	days)
	Patient with eGFR <30is prescribed spironolactone or eplerenone	Patient with documented CKD stage 4 or 5 or latest eGFR <30	On spironolactone or eplerenone (active repeat OR issued in last
		ml/min	84 days)
	Patient with eGFR <30 is prescribed aliskiren	Patient with documented CKD stage 4 or 5 or latest eGFR <30	On aliskiren (active repeat OR issued in last 84 days)
		ml/min	
	Patient with eGFR <30 is prescribed a potassium supplement	Patient with documented CKD stage 4 or 5 or latest eGFR <30	On a potassium supplement (active repeat OR issued in last 84
		ml/min	days)
	Patient with eGFR <30 is prescribed trimethoprim	Patient with documented CKD stage 4 or 5 or latest eGFR <30	On trimethoprim (active repeat OR issued in last 84 days)
		ml/min	
	Patient is prescribed insulin without being prescribed glucose test	Patient is prescribed insulin (active repeat OR issued in last 84	Not on glucose test strips (active repeat OR issued in last 84 day
	strips	days)	
	Patient with dementia is on intensive hypoglycaemic therapy and	Patient with diabetes type 2 and dementia	Last HbA1c is <53 (7.0%) and on one or more of (all on active
	glycaemic control is <53 (7.0%)		repeat or issued in last 84D): sulfonylurea, gliptin, meglitinide,
Hypoglyc			GLP1RA, insulin
	Patient aged 65 or older without dementia is on intensive	Patient aged 65 or older with diabetes type 2 but without	On intensive hypoglycaemic therapy (active repeat OR issued in
	hypoglycaemic therapy and HbA1c is <48 (<6.5%)	dementia	last 84 days) and last HbA1c is <48 (<6.5%)
	Patient aged 75 or older without dementia is on intensive	Patient aged 75 or older with diabetes type 2 but without	On intensive hypoglycaemic therapy (active repeat OR issued in
	hypoglycaemic therapy and HbA1c is <53 (7.0%)	dementia	last 84 days) and last HbA1c is <53 (7.0%)
	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 previou
			364d and the latest measurement showing <3
НуроК+	Patient prescribed a thiazide diuretic has hypokalaemia (i.e. serum	Patient on a thiazide (active repeat or issued in last 84d)	Last potassium <3.0
	K+ < 3.0 mmol/l)		
		Patient prescribed a loop diuretic (active repeat OR issued in last	Last potassium < 3.0 mmol/l
	< 3.0 mmol/l)	84 days)	
	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.	Patient on a thiazide (active repeat or issued in last 84d)	Last sodium < 130 mmol/l
HypoNa+	serum Na+ < 130 mmol/l)	Detical considerate level in the first feet and the first feet	
	Loop diuretic prescribed to a patient with hyponatraemia (i.e.		Last sodium < 130 mmol/l
	serum Na+ < 130 mmol/l)	84 days)	O continue to the continue of the last of the continue of the
LactAcid	Patient with eGFR<30 is prescribed metformin		On metformin (active repeat OR issued in last 84 days)
		showing eGFR<30ml/min	
	Patient without heart failure is on BP lowering treatment and BP	Patient aged 75 and older without heart failure	Last SBP <110 or last DBP <65 and on any of (on active repeat or
	is <110/65mmHg		issued in previous 84d): ACEI, ARB, BB, thiazide, CCB,
LowBP			ALPHABLOCKER, NITRATE_BPLowering, CentralAntiHTN
	Patient with dementia is on 2 or more BP lowering drugs and BP is	Datient with demontic and hypertension	On 2 or more BP lowering drugs (both active repeat OR issued in
	<130/75mmHg	Patient with dementia and hypertension	last 84 days) and BP is <130/75mmHg
	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)
Neurotox.	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
MEGIOLOX.	attent on numari has recently been started on a unazide didretic	atient of infinitif (active repeat on issued in last 64 days)	diuretic issued in previous 85 to 168 days
	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	On any non-topical NSAID (active repeat OR issued in last 84 day
	ratient on an Activand and a didretic is prescribed an NSAID	ACEI or ARB (active repeat OR issued in last 84 days)	active repeat on issued in last 64 day
		ACE OF AND (active repeat ON issued in last 04 days)	
	During the OFF CO.	Patient with one of the following: CKD stage 4 or 5 or latest eGFR	On any non-topical NSAID (active repeat OR issued in last 84 day
	IPatient with e(3FR a3() is prescribed an NSAII)	THE ACTION WITH ONE OF THE TOHOWING, CIVI STAKE 4 OF JULIALEST EUTN	Ton any non-topical North (active repeat ON issued III last 04 uay
	Patient with eGFR q30 is prescribed an NSAID		
Ranal		showing eGFR<30ml/min	
Renal	Patient with eGFR q30 is prescribed an NSAID Patient with eGFR q60 and on an ACEI or ARB is prescribed an NSAID		

Polypharmacy Indicators

	Risk description in STU	Description	Denominator definition	Numerator definition
		Patient with eGFR $q60$ and on a diuretic is prescribed an NSAID	Patient on a diuretic (active repeat OR issued in last 84 days) and	On any non-topical NSAID (active repeat OR issued in last 84 days)
			with one of the following: CKD stage 3,4 or 5 or latest eGFR	
			showing eGFR<60ml/min	
Γ	Respiratory	Patient with asthma requiring treatment is prescribed a non-	Patient with asthma and on SABA (issued in last 84 days)	On non-cardioselective BB (active repeat OR issued in last 84
		selective beta-blocker (oral or topical)		days)