

Taking the harm out of Polyp**harm**acy Step by step

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Presentation:

- Polypharmacy
- Overview of the 2015 guidelines
- The Seven Steps
- Application of the guidelines in the care home setting

Workshop:

- Polypharmacy case
- Feedback and comparison with pharmacist's review

Appropriate polypharmacy?



- All medicines are prescribed for the purpose of achieving specific therapeutic objectives
- Therapeutic objectives are being achieved
- Therapy has been optimised to minimise the risk of adverse drug reactions
- The patient is motivated and able to take all medicines as intended

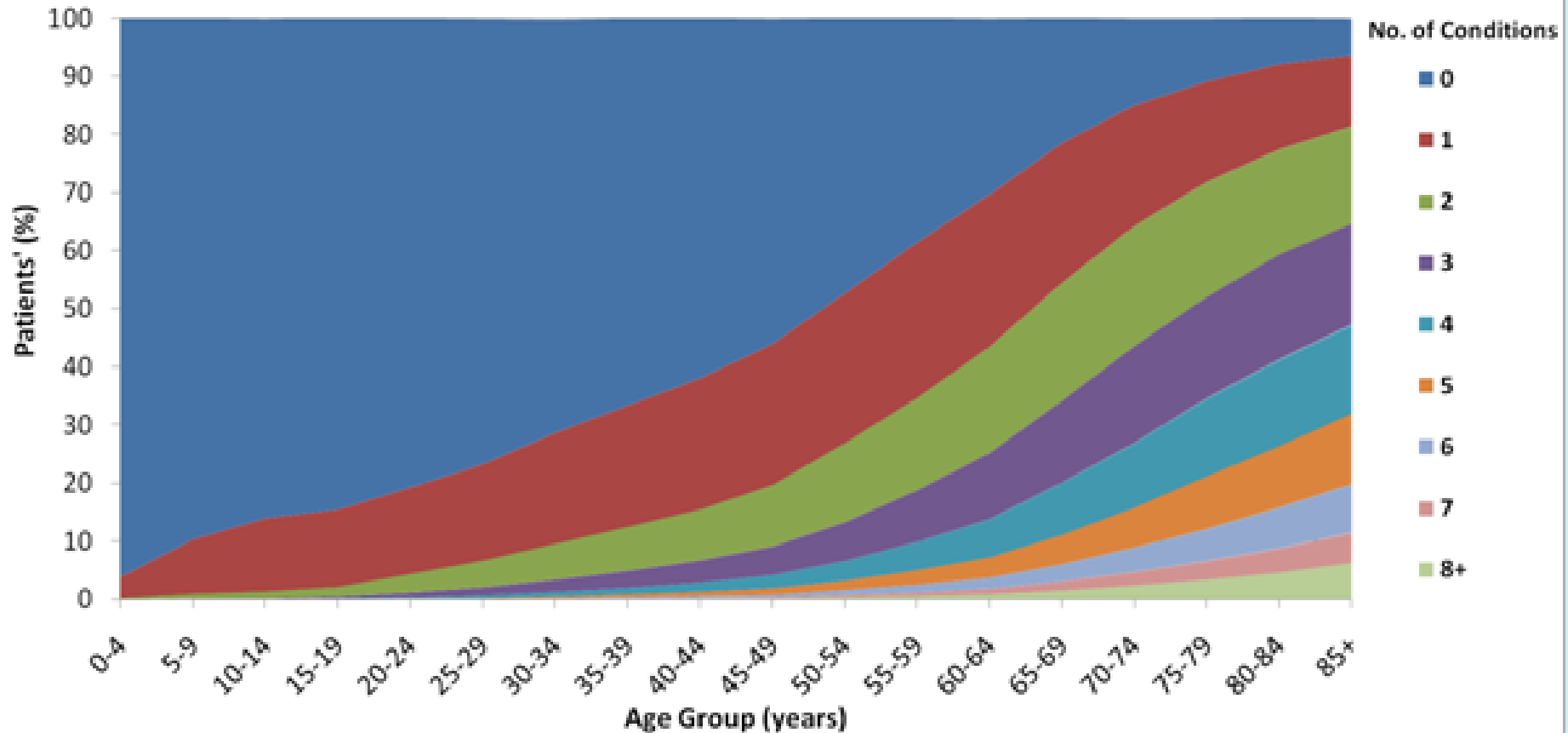
Inappropriate polypharmacy?

- No evidence based indication, the indication has expired or the dose is unnecessarily high
- One or more medicines fail to achieve the therapeutic objective
- One or the combination of medicines cause unacceptable ADR's
- The patient is not willing or able to take the medicines as intended



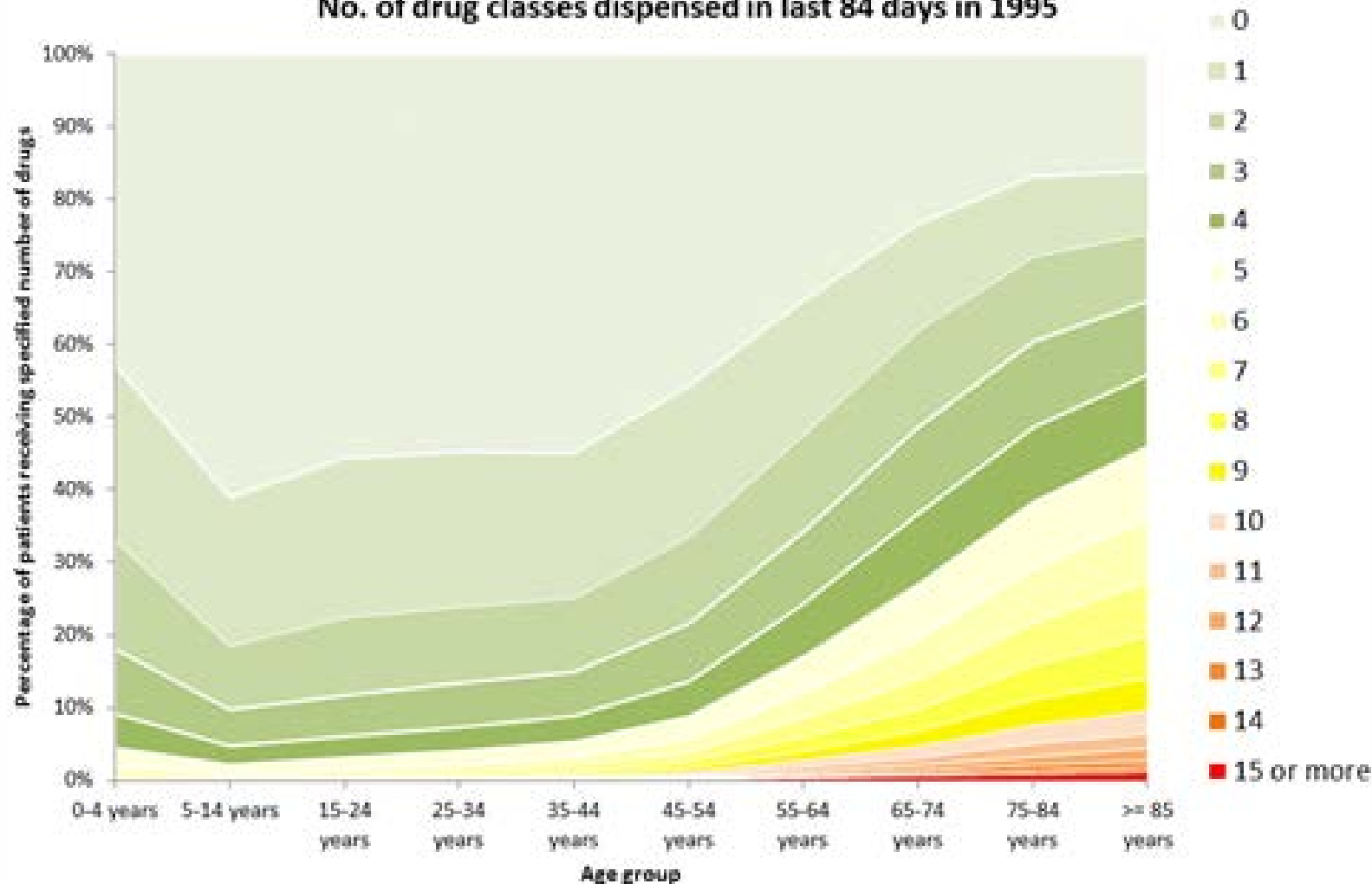
Multimorbidity in Scotland

Morbidity (number of chronic conditions) by Age Group

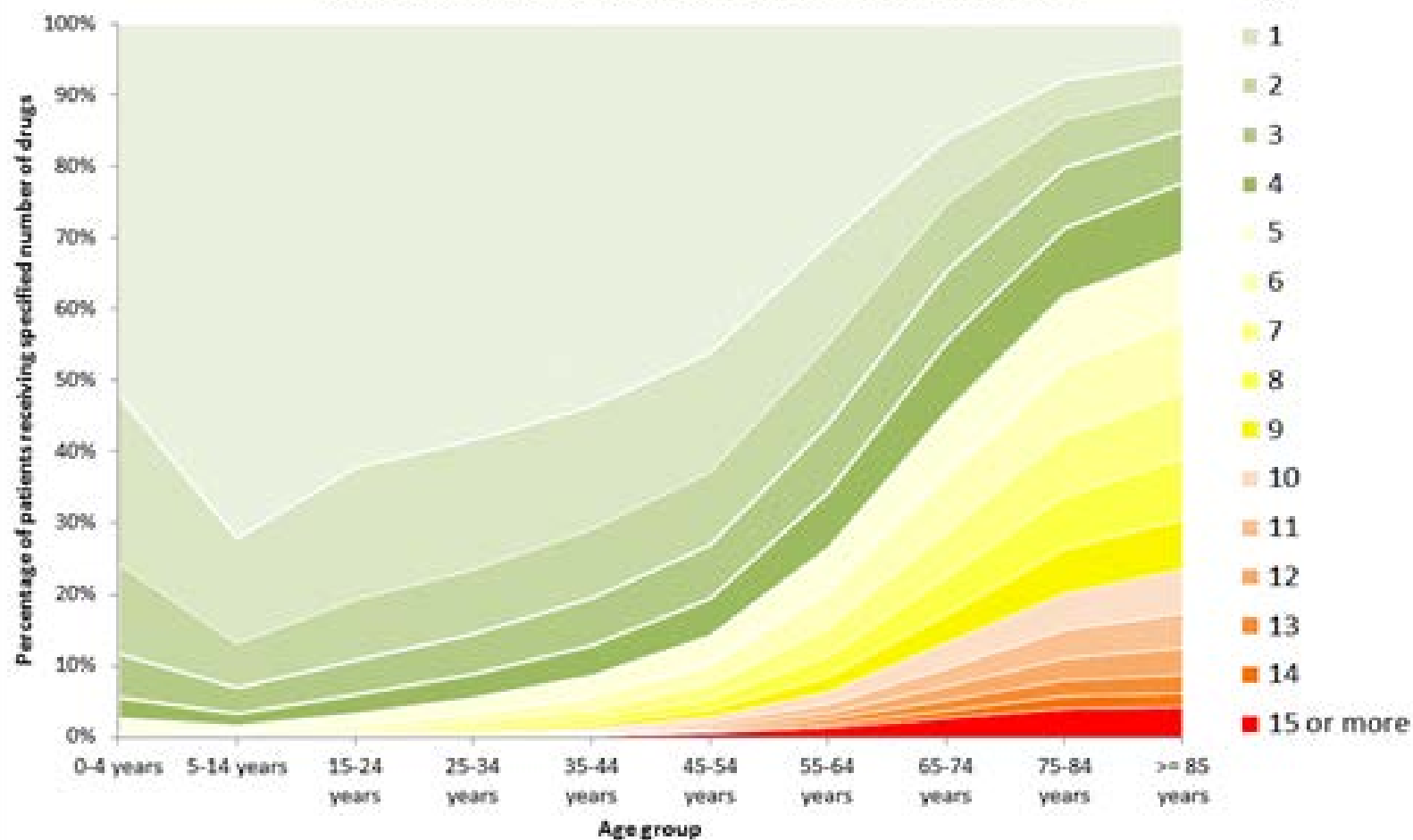


Mercer, Guthrie, Wyke: Scottish School of Primary Care

No. of drug classes dispensed in last 84 days in 1995



No. of drug classes dispensed in last 84 days in 2010



Contributory Factors



- Patient expectation
- Limited patient engagement?
- Prescriber attitude (it's easier to start prescription....)
- Original indication unclear
- Consultations with several prescribers
- Guidelines – unipathology
- Primary care Quality Outcome Framework (QOF) targets?
- Hospitalisation, especially repeat episodes of care
- Poor communication across the interfaces

Safer Use of Medicines



adults in Scotland are dispensed 5 or more medicines



of patients over 70 years old are dispensed 5 or more medicines

Each year in primary care



non-elective hospital admissions are due to medicines

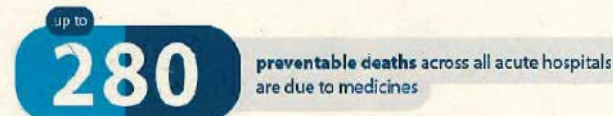
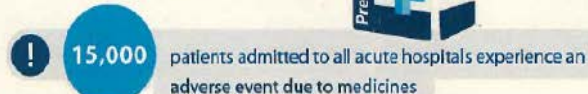
5 classes of medicines account for most admissions

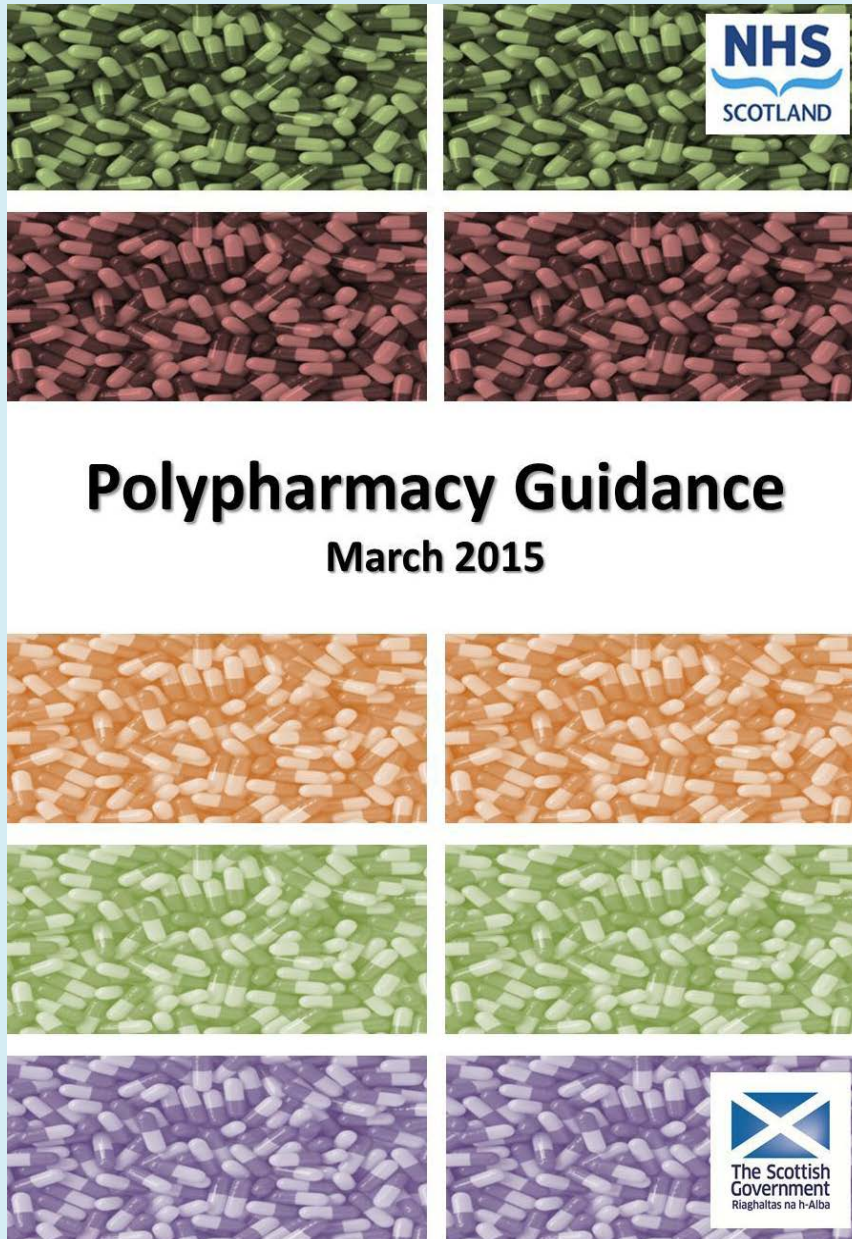
- NSAIDs
- Antiplatelets
- Anticoagulants
- Diuretics
- Anti-hypertensives

Each year in acute care



items are prescribed in an average 500 bed acute hospital





The Polypharmacy Guidance 2015

http://www.sign.ac.uk/pdf/polypharmacy_guidance.pdf

The Knowledge Network Mobile
App Library at

<http://www.knowledge.scot.nhs.uk/home/tools-and-apps/mobile-knowledge/search.aspx?device=Non-e&q=polypharmacy&p=1&rpp=20>

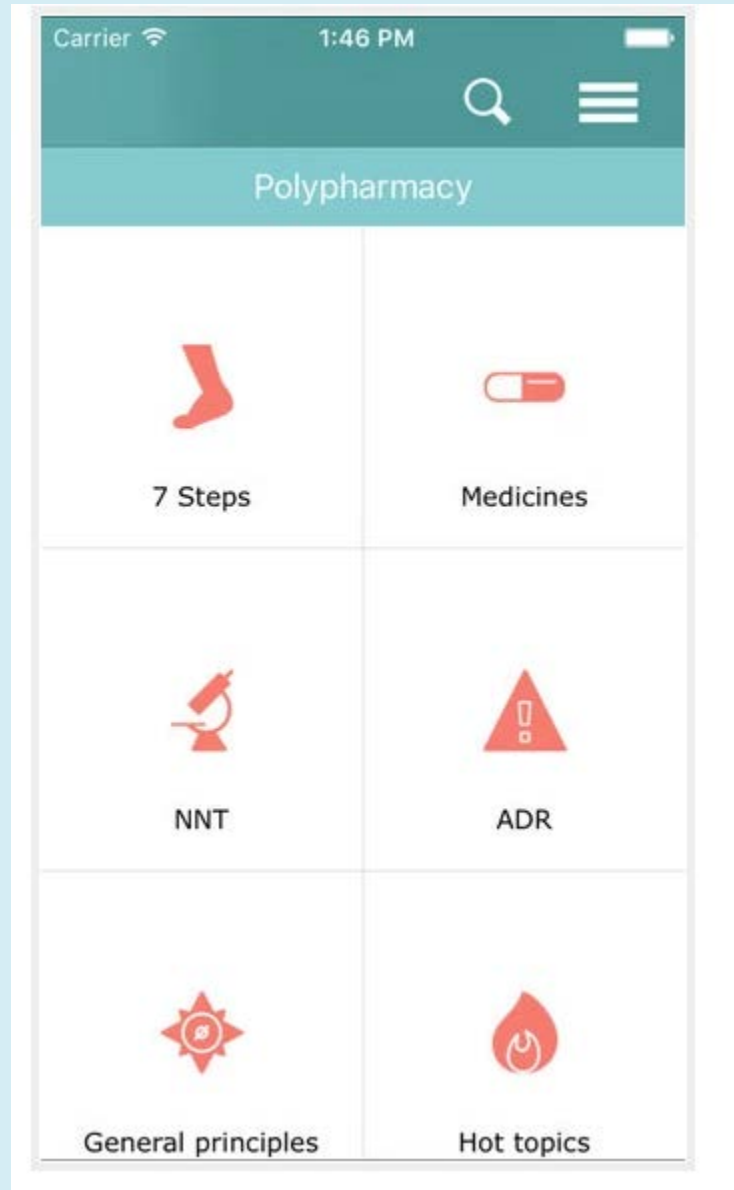
iTunes and Google Play app stores.



POLYPHARMACY GUIDANCE

POWERED BY





How does the guideline aim to help?



- Clear structure for a drug review
- Empower the patient and the clinician to make decisions on what to take and why
- Case studies
- Medication safety
- Drug efficacy and applicability table

Domain	Steps	Process
Aims	1. Identify objectives of drug therapy	Review diagnoses and identify therapeutic objectives with respect to: <ul style="list-style-type: none"> ➤ Management of existing health problems ➤ Prevention of future health problems
Need	2. Identify essential drug therapy	Identify essential drugs (not to be stopped without specialist advice) <ul style="list-style-type: none"> ➤ Drugs that have essential replacement functions (e.g. thyroxine) ➤ Drugs to prevent rapid symptomatic decline (e.g. drugs for Parkinson's disease, heart failure)
	3. Does the patient take unnecessary drug therapy?	Identify and review the (continued) need for drugs <ul style="list-style-type: none"> ➤ with temporary indications ➤ with higher than usual maintenance doses ➤ with limited benefit in general for the indication they are used for ➤ with limited benefit in the patient under review (see Drug efficacy & applicability (NNT) table)
Effectiveness	4. Are therapeutic objectives being achieved?	Identify the need for adding/intensifying drug therapy in order to achieve therapeutic objectives <ul style="list-style-type: none"> ➤ to achieve symptom control ➤ to achieve biochemical/clinical targets ➤ to prevent disease progression/exacerbation
Safety	5. Does the patient have ADR or is at risk of ADRs?	Identify patient safety risks by checking for <ul style="list-style-type: none"> ➤ drug-disease interactions ➤ drug-drug interactions (see ADR table) ➤ robustness of monitoring mechanisms for high-risk drugs ➤ drug-drug and drug-disease interactions ➤ risk of accidental overdosing Identify adverse drug effects by checking for <ul style="list-style-type: none"> ➤ specific symptoms/laboratory markers (e.g. hypokalaemia) ➤ cumulative adverse drug effects (see ADR table) ➤ drugs that may be used to treat ADRs caused by other drugs
Cost-effectiveness	6. Is drug therapy cost-effective?	Identify unnecessarily costly drug therapy by <ul style="list-style-type: none"> • Consider more cost-effective alternatives (but balance against effectiveness, safety, convenience)
Adherence/ Patient centeredness	7. Is the patient willing and able to take drug therapy as intended?	Identify risks to patient non-adherence by considering <ul style="list-style-type: none"> • Is the medicine in a form that the patient can take? • Is the dosing schedule convenient? • Is the patient able to take medicines as intended? • Might the patient benefit from the Chronic Medication Service (CMS)? • Is the patient's pharmacist informed of changes to regimen? Ensure drug therapy changes are tailored to patient preferences by <ul style="list-style-type: none"> • Discuss with the patient/carer/welfare proxy therapeutic objectives and treatment priorities • Decide with the patient/carer/welfare proxies what medicines have an effect of sufficient magnitude to consider continuation or discontinuation

Step 1 Aim



- What are you trying to achieve?
- Is the priority:
 - *Prevention/risk reduction?*
 - *Symptom management?*
- What does the patient want?

Step 2 and 3 need....

- *essential* versus *non essential*
 - If a drug doesn't have a clear ongoing reason – stop it
 - Consider duration – was long term treatment intended?
 - Has the evidence base changed?
 - If there are multiple drugs for 1 indication? Do you need them all?
 - Is there an indication without a drug?

Step 4 Effectiveness



- Diabetic with neuropathic pain on Gabapentin – seems reasonable – but is it helping?
- Elderly lady with urinary incontinence on Solifenacin – seems reasonable – but is it helping?
- 80 year old man with a history of gout on allopurinol 100mg once daily for > 20 years and no urate level on file – are we achieving our treatment goal?

Step 5 Safety



- Ask the patient – Open question - any side effects?
- Can specific/closed questioning tease them out?
- High risk combinations
- Additive effects e.g. Anticholinergic burden
- Consider pro-active monitoring to avoid harm
- Consider the therapeutic cascade

Step 6 Cost-effective?



- Pharmacy reviews –£109 patient
 - Identifying non compliance and stopping medicines the patient is not taking
 - Stopping unnecessary medicines
 - Reducing unnecessarily high doses
- consider cost-effective formulations/formulary choices/Scriptswitch

Step 7 Adherence/Patient centredness



- Is the patient willing and able to take the medicine as intended
- Identify risks to patient non-adherence by considering
 - Is the prescription in a form the patient can take?
 - Is dosing convenient?

Table 2b: Drug groups for the '7-steps' with [Links](#) to greater detail by BNF chapter

Essential drug therapy – Only consider stopping following specialist advice

Discuss with expert before stopping	Discuss with expert before altering	
<ul style="list-style-type: none"> Diuretics - in LVSD (7) ACE inhibitors - in LVSD (17) Steroids Heart rate controlling drugs 	<ul style="list-style-type: none"> Anti-epileptics Antidepressant Antipsychotic Mood stabilisers 	<ul style="list-style-type: none"> Amiodarone DMARDs Thyroid hormones

Potentially unnecessary drug therapy

Check for expired indication	Check for valid indication	benefit versus risk
<ul style="list-style-type: none"> PPI(1) /H2 blocker (2) Laxatives (3) Antispasmodics (4) Oral steroid (22, 36) Hypnotics/anxiolytics (24) H1 blockers (29) Metoclopramide (28) Antibacterials (oral/topical) (32) Antifungals (oral/topical) (33) Sodium/potassium suppl. (44, 45) Iron supplements (44) Vitamin suppl. (44) Calcium/Vitamin D (44) Sip feeds (44) NSAIDs (46) Drops, ointments, sprays etc. (49) 	<ul style="list-style-type: none"> Anticoagulant (5) Anticoagulant + antiplatelet (6) Aspirin (6) Dipyridamole (6) Diuretics (7) Digoxin (9) Peripheral vasodilators (10) Quinine (11) Antiarrhythmics (13) Theophylline (21) Antipsychotics (25) Tricyclic antidepressants (27) Opioids (30) Levodopa Nitrofurantoin (32) Alpha-blockers (39) Finasteride (40) Antimuscarinics (urological) (41) Cytotoxics/Immunosuppressant (43) Muscle relaxants (47) 	<ul style="list-style-type: none"> Antianginals (12) BP control (15) Statins (14) Inhaled steroids (20) Dementia drugs (26) Bisphosphonates (37) HbA1c control (34) Female hormones (42) DMARDs (48) <p>(see Drug efficacy & applicability (NNT) table)</p>

Effectiveness

If therapeutic objectives are not achieved: Consider intensifying existing drug therapy	For patients with the following potential indications: Consider if patient would benefit from the specified drug therapy
<ul style="list-style-type: none"> Laxative - Constipation (3) Antihypertensives - BP control (15) Antidiabetics - HbA1c control (34) Warfarin - INR control Rate limiting drugs - Heart rate? Respiratory drugs – Symptoms? Pain control 	<ul style="list-style-type: none"> (see Drug efficacy & applicability (NNT) table) CHD - Antithrombotic, statins, ACEI/ARB, beta blocker Previous stroke/TIA - Antithrombotic, statin, ACEI/ARB LVSD - Diuretic, ACEI/ARB, beta blocker AF - Antithrombotic, rate control DMT2 - Metformin High fracture risk - Bone protection

Safety

Drugs poorly tolerated in frail adults	High-risk clinical scenarios	
<p>See Gold National Framework on frailty</p> <ul style="list-style-type: none"> Antipsychotics (incl. phenothiazines) NSAIDs (46) Digoxin (doses \geq 250 mcg) (9) Benzodiazepines (24) Anticholinergics (incl. TCAs) (27) Combination analgesics 	<p>See ADR table</p> <p>See "Sick day rules" cards</p> <ul style="list-style-type: none"> Metformin + dehydration ACEI/ARBs + dehydration Diuretics + dehydration NSAIDs + dehydration NSAID + ACEI/ARB + diuretic NSAID + CKD 	<ul style="list-style-type: none"> NSAID + age >75 (without PPI) NSAID + history of peptic ulcer NSAID + antithrombotic NSAID + CHF Glitazone + CHF TCA + CHF Warfarin + macrolide/quinolone \geq2 anticholinergics (see Anticholinergics)

Cost-effectiveness

Check for

<ul style="list-style-type: none"> Costly formulations (dispersible) Costly unlicensed 'specials' 	<ul style="list-style-type: none"> Branded products >1 strength of same drug 	<ul style="list-style-type: none"> Unsynchronised dispensing intervals (28 or 56 day supplies)
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Adherence/patient centeredness

Check self-administration (cognitive)	Check self-administration (technical)	
<ul style="list-style-type: none"> Warfarin/New OAC's Anticipatory care meds eg COPD 	<ul style="list-style-type: none"> Analgesics Methotrexate 	<ul style="list-style-type: none"> Inhalers Eye drops Any other devices Bisphosphonates/calcium



Safety

Drugs poorly tolerated in frail adults

[See Gold National Framework on frailty](#)

- Antipsychotics (incl. phenothiazines)
- NSAIDs (46)
- Digoxin (doses ? 250 mcg) (9)
- Benzodiazepines (24)
- Anticholinergics (incl. TCAs) (27)
- Combination analgesics

High-risk clinical scenarios

[See ADR table](#)

- Metformin + dehydration
- ACEI/ARBs + dehydration
- Diuretics + dehydration
- NSAIDs + dehydration
- NSAID + ACEI/ARB + diuretic
- NSAID + CKD

- NSAID + age >75 (without PPI)
- NSAID + history of peptic ulcer
- NSAID + antithrombotic
- NSAID + CHF
- Glitazone + CHF
- TCA + CHF
- Warfarin + macrolide/quinolone
- ?2 anticholinergics ([see Anticholinergics](#))

Table 2c: Information on targeted drugs (by BNF) with [Links](#) to section of greater detail

The table below briefly provides the rationale behind targeting each drug or drug group as well as some practical guidance. It may be used as a reference while preparing for a face to face medication review. The list is an amalgamation of existing collections of explicit medication assessment tools (including START/STOPP, DQIP and others), but **it is important to note that no list can be comprehensive and the reviewer's clinical judgement and experience continue to be essential in tailoring the advice given to the needs of an individual patient and to identify any additional medication related problems.**

BNF Chapter 1: Gastrointestinal system		
1	PPIs	<ul style="list-style-type: none"> o If long term treatment is necessary, ensure doses don't exceed usual maintenance doses o CAUTION: Clostridium difficile, osteoporosis, hypomagnesaemia
2	H2 blockers	<ul style="list-style-type: none"> o CAUTION: Anticholinergic ADRs! See Anticholinergics, See ADR table
3	Laxatives	<ul style="list-style-type: none"> o CAUTION: Vicious cycle of fluid loss > hypokalaemia > constipation ✓ If >1 laxative: Do not stop abruptly. Reduce stimulant first and monitor effect ✓ See advice here on non-pharmacological options:
4	Antispasmodics	<ul style="list-style-type: none"> o Rarely effective; rarely indicated long term o CAUTION: Anticholinergic side effects
BNF Chapter 2: Cardiovascular system		
5	Anticoagulants	<ul style="list-style-type: none"> o Check for expired indications (e.g. temporary loss of mobility that has now resolved) o Much more effective for stroke prevention in AF than antiplatelets - See NNT table o CAUTION: Bleeding events. Avoid combinations of anticoagulants, antiplatelets, NSAIDs o Ensure patient adherence to dosing/monitoring regimen ✓ If patient is unfit for warfarin for cognitive reasons (NOACs may not be indicated either)
6	Antiplatelets	<ul style="list-style-type: none"> o NOTE: Antiplatelets are no longer indicated for 1° prevention of CHD o Aspirin plus clopidogrel indicated for a maximum of 12 months after ACS only o CAUTION: Bleeding events. Avoid combinations of anticoagulants, antiplatelets, NSAIDs ✓ Consider PPI in those with additional GI risk factors (but avoid clopidogrel+ [es]omeprazole) o Consider antiplatelets as part of 2° prevention strategy after CVD events - See NNT table ✓ First line antiplatelet for 2° stroke prevention is clopidogrel (rather than dipyridamole)
7	Diuretic	<ul style="list-style-type: none"> o Usually essential for symptom control in heart failure o Note: Not indicated for dependent ankle oedema (consider medication causes, e.g. CCBs) o CAUTION: AKI and electrolyte disturbances o Advise patient to stop during intercurrent illness; Is U&E monitoring robust?
8	Spironolactone	<ul style="list-style-type: none"> o CAUTION: Hyperkalaemia. Risk factors include: CKD (CI if eGFR<30ml/min), dose >25mg/d, co-treatment with ACEI/ARBs, amiloride, triamterene, potassium supplements
9	Digoxin	<ul style="list-style-type: none"> o CAUTION: Toxicity! Risk factors are: CKD, dose>125mcg/d, poor adherence, hypokalaemia, drug-drug interactions
10	Periph. vasodil.	<ul style="list-style-type: none"> o Rarely effective; rarely indicated long term
11	Quinine	<ul style="list-style-type: none"> o Use short term only when nocturnal leg cramps cause regular disruption of sleep o Review effectiveness regularly o CAUTION: Thrombocytopenia, blindness, deafness
12	Antianginals	<ul style="list-style-type: none"> o Consider reducing antianginal treatment if mobility has decreased

Safety

Drugs poorly tolerated in frail adults

[See Gold National Framework on frailty](#)

- Antipsychotics (incl. phenothiazines)
- NSAIDs (46)
- Digoxin (doses ? 250 mcg) (9)
- Benzodiazepines (24)
- Anticholinergics (incl. TCAs) (27)
- Combination analgesics

High-risk clinical scenarios

[See ADR table](#)

- Metformin + dehydration
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- NSAID + antithrombotic
- NSAID + CHF
- Glitazone + CHF
- TCA + CHF
- Warfarin + macrolide/quinolone
- ?2 anticholinergics ([see Anticholinergics](#))

1.3 Tool to assess cumulative risk of drug toxicity and ADRs

The chart below cross-tabulates medication and ADR risks associated with them. It is intended as an aid to identify actual ADRs or medication safety risks that are the consequence of cumulative ADRs. For example, if a patient reports constipation, the chart can identify drugs that may contribute to it. Inversely, the risk of constipation can be anticipated if a patient is taking multiple drugs that may cause this side effect. **Please, note that the list focuses on commonly used drugs and commonly preventable ADRs, and is not meant to replace more detailed medicines information sources.**

Table 3a: ADR Table

BNF chapter No. - Medication	ADR												
	Falls and fractures	Constipation	Urinary retention	CNS depression	Bleeding	Heart failure	Bradycardia	CV events	Respiratory	Hypoglycaemia	Renal injury	Hypokalaemia	Hyperkalaemia
1													
H2 Blockers													
Laxatives (2)													
Loperamide													
Prochlorperazine etc ^A													
Metoclopramide													
Antithrombotics													
2													
ACEI/ARB													
Thiazide diuretics													
Loop diuretics													
Amiloride/triamterene													
Spirolactone													
Beta-blocker													
CCB (dihydropyridine)													
CCB (verapamil/diltiazem)													
Nitrates and nicorandil													
Digoxin													
3													
Theophylline													
Oral steroids													
4													
Opiates													
Benzodiazepines													
Sedative antihistamines ^D													
H1 Blockers													
Antipsychotics ^E													
SSRI and related													
TCAs ^C													
MAO inhibitors													
5													
Antibiotics/antifungals													
6													
Sulfonylureas, gliptins, glinides													
Pioglitazone													
7													
Urinary antispasmodics													
Dosulepin ^B													
Alpha blocker													
10													
NSAIDs													

A - STRONG anticholinergics are: dimenhydrinate, scopolamine, dicyclomine, hyoscyamine, propantheline; B - STRONG anticholinergics are: tolterodine, oxybutynin, flavoxate; C - STRONG anticholinergics are: amitriptyline, desipramine, doxepine, imipramine, nortriptyline, trimipramine, protriptyline; D - STRONG anticholinergics are: promethazine; E - STRONG anticholinergics are: diphenhydramine, clemastine, chlorphenamine, hydroxyzine.



Hot topics



Anticholinergics

Medication and risk of falls in the older person

Antipsychotics in patients with dementia

Benzodiazepines and z drugs

Management of constipation

Management of blood glucose control

Appendices



Patient information leaflet on medicines and dehydration

Medicine sick day rule cards

NNT explained

Health economics and analysis of polypharmacy review

Indicators and monitoring

Medicine sick day rule cards



Medicine Sick Day Rules



When you are unwell with any of the following:

- Vomiting or diarrhoea (unless only minor)
- Fevers, sweats and shaking

Then **STOP** taking the medicines listed overleaf

Restart when you are well (after 24-48 hours of eating and drinking normally)

If you are in any doubt, contact your pharmacist, GP or nurse

Medicines to stop on sick days

ACE inhibitors: medicine names ending in "pril"

eg, lisinopril, perindopril, ramipril

ARBs: medicine names ending in "sartan"

eg, losartan, candesartan, valsartan

NSAIDs: anti-inflammatory pain killers

eg, ibuprofen, diclofenac, naproxen

Diuretics: sometimes called "water pills"

eg, furosemide, spironolactone, indapamide, bendroflumethiazide

Metformin: a medicine for diabetes

Life expectancy and NNTs



- Some older, frail people are likely to die within a few months
- Continuing secondary prevention medication in this group is probably not useful
- Use of NNT data from trials has been proposed as a way of identifying medications that are unlikely to benefit those with limited life expectancy



Supportive and Palliative Care Indicators Tool (SPICT™)



The SPICT™ is a guide to identifying people at risk of deteriorating health and dying. Assess these people for unmet supportive and palliative care needs.

Look for two or more general indicators of deteriorating health.

- Performance status is poor or deteriorating (the person is in bed or a chair for 50% or more of the day); reversibility is limited.
- Dependent on others for most care needs due to physical and/or mental health problems.
- Two or more unplanned hospital admissions in the past 6 months.
- Significant weight loss (5-10%) over the past 3-6 months, and/ or a low body mass index.
- Persistent, troublesome symptoms despite optimal treatment of underlying condition(s).
- Patient asks for supportive and palliative care, or treatment withdrawal.

Look for any clinical indicators of one or more advanced conditions

Cancer

Functional ability deteriorating due to progressive metastatic cancer.

Too frail for oncology treatment or treatment is for symptom control.

Dementia/ frailty

Unable to dress, walk or eat without help.

Eating and drinking less; swallowing difficulties.

Urinary and faecal incontinence.

No longer able to communicate using verbal language; little social interaction.

Fractured femur; multiple falls.

Recurrent febrile episodes or infections; aspiration pneumonia.

Neurological disease

Progressive deterioration in physical and/or cognitive function despite optimal therapy.

Speech problems with increasing difficulty communicating and/ or progressive swallowing difficulties.

Recurrent aspiration pneumonia; breathless or respiratory failure.

Heart/ vascular disease

NYHA Class III/IV heart failure, or extensive, untreatable coronary artery disease with:

- breathlessness or chest pain at rest or on minimal exertion.

Severe, inoperable peripheral vascular disease.

Respiratory disease

Severe chronic lung disease with:

- breathlessness at rest or on minimal exertion between exacerbations.

Needs long term oxygen therapy.

Has needed ventilation for respiratory failure or ventilation is contraindicated.

Kidney disease

Stage 4 or 5 chronic kidney disease (eGFR < 30ml/min) with deteriorating health.

Kidney failure complicating other life limiting conditions or treatments.

Stopping dialysis.

Liver disease

Advanced cirrhosis with one or more complications in past year:

- diuretic resistant ascites
- hepatic encephalopathy
- hepatorenal syndrome
- bacterial peritonitis
- recurrent variceal bleeds

Liver transplant is contraindicated.

Review supportive and palliative care and care planning

- Review current treatment and medication so the patient receives optimal care.
- Consider referral for specialist assessment if symptoms or needs are complex and difficult to manage.
- Agree current and future care goals, and a care plan with the patient and family.
- Plan ahead if the patient is at risk of loss of capacity.
- Record, communicate and coordinate the care plan.

NHS Lothian Polypharmacy Review

Jan 2012 onwards



All 126 GP practices in NHS Lothian invited to participate in Service Level Agreements (SLA)

Aims

- **To target priority patient groups - those most at risk of ADRs:** care home residents, frail housebound, those on high-risk medications (either alone or in combination).
- **To carry out systematic medication reviews to optimise medicines**
 - minimise medicines which may be harmful (particularly in those experiencing ADRs) or no longer appropriate,
 - maximise benefit
 - in line with NHS Lothian Polypharmacy Guidance for prescribing in frail adults (based on NHS Highland guidance, later Scottish guidance 1st ed Oct 2012)
- **To undertake joint review discussions GP/patient/pharmacist and implement changes**

SUMMARY	2012/13	2013/14	2014/15 to date
patient cohort	care home residents plus 24 patients per practice aged ≥ 75 yrs on ≥ 10 repeat meds at least one of which high risk	24 patients per practice aged ≥ 75 yrs with SPARRA score 40-60% having received meds from ≥ 10 BNF sections one of which high risk	care home residents plus 24 patients per practice aged > 75 yrs with SPARRA score 40-60% having received meds from > 10 BNF sections one of which high risk
no. practices signed up to SLA/126 practices NHS Lothian	55	85	91
no. patient medication reviews	2616	2764	2569/4858
no. medicines stopped	3322	3067	2303
of which high risk medicines	680	660	507
no. medicines with dose reduced	604	696	641
no. medicines with dose increased	88	101	83
no. medicines started	596	299	176
no. medicines switched	532	719	380
estimated medicines cost/patient/year saved (£)	£112	£65	£109

Multidisciplinary team working key to success





Patient characteristics

Age: 88 Sex: Male Weight: 63kg

Relevant Medical History

- COPD
- Hypertension
- T2DM
- Eczema
- LVF moderate

Drug allergies

- No known drug allergies

Current Medication

- Metformin 500mg daily
- Ferrous Sulphate 200mg three times a day
- Macrogol 3350 sachets One sachet as required
- Simvastatin 20mg nocte
- Furosemide 40mg daily
- Tamsulosin MR 400micrograms daily
- Amlodipine 5mg daily
- Quinine 300mg nocte
- Omeprazole 20mg daily
- Paracetamol 1g 4 to 6 hourly as required
- Salbutamol 100micrograms 2 puffs when required
- Symbicort 400/12 1 puff twice daily
- Aqueous cream to be used as directed
- Calmurid cream to be applied as directed twice daily

Available Results

- BP 120/65
- HbA1c 36
- Hb 108 MCV 91 platelets 167
- Cr Cl 20mls/min e GFR 30mls/min/1.73m²
- Cholesterol 3.6

Suggested medication changes

(Please mark with a cross in the appropriate column whether you would continue/modify or stop the listed medication. Where possible, please list your rationale for change)

Current Medication	Dose	Suggested change			Rationale for suggested change (or no change)
		Continue	Modify Dose (please specify to what)	Stop	
Metformin	500mg daily				
Ferrous Sulphate	200mg three times a day				
Macrogol 3350 sachets	One sachet as required				
Simvastatin	20mg nocte				
Furosemide	40mg daily				
Tamsulosin MR	400micrograms daily				
Amlodipine	5mg daily				
Quinine	300mg nocte				
Omeprazole	20mg daily				
Paracetamol	1g 4 to 6hourly as required				
Salbutamol 100micrograms	2 puffs when required				
Symbicort 400/12	1 puff twice daily				
Aqueous cream	use as directed				
Calmurid cream	applied as directed twice daily				

Care Home Polypharmacy Review

PMH

- COPD
- Hypertension
- T2DM
- Eczema
- LVF moderate

MH

- Metformin 500mg daily
- Ferrous Sulphate 200mg three times a day
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- Furosemide 40mg daily
- Tamsulosin MR 400micrograms daily
- Amlodipine 5mg daily
- Quinine 300mg nocte
- Omeprazole 20mg daily
- Paracetamol 1g 4 to 6hourly as required
- Salbutamol 100micrograms 2 puffs when required
- Symbicort 400/12 1 puff twice daily
- Aqueous cream to be used as directed
- Calmurid cream to be applied as directed twice daily

Most recent Investigations

- BP 120/65
- HbA1c 36
- Hb 108 MCV 91 platelets 167
- Cr Cl 20mls/min e GFR 30mls/min/1.73m²
- Cholesterol 3.6

Other points of note

- Long term urinary catheter
- No known drug allergies

Past Medical History	Medicine History	Pharmaceutical Care Issues
COPD	Salbutamol 100micrograms 2 puffs when required Symbicort 400/12 1 puff twice daily	Spirometry did not support diagnosis of COPD. Not known to respiratory. If asthma trial of stepping down. Check inhaler technique
Hypertension	Amlodipine 5mg daily	Last BP 120/65 recheck BP and review need
T2DM	Metformin 500mg daily	eGFR 30ml/min/1.73m2 CrCl 20mls/min HbA1c 36

Past Medical History	Medicine History	Pharmaceutical Care Issues
Eczema	Aqueous cream to be used as directed Calmurid cream to be applied as directed BD	Calmurid last ordered 18 months ago. Review eczema symptoms and treatment.
LVF	Furosemide 40mg daily	Monitor symptoms of LVF balance between optimising treatment without deteriorating renal function.
?Anaemia	Ferrous sulphate 200mg three times a day	Hb chronically low despite long term treatment. Bloods do not reflect an iron deficient picture. Metformin can cause Vitamin B12 deficiency? Fe/Vitamin B12/folate not measured. ?anaemia of chronic disease ?investigate cause

Past Medical History	Medicine History	Pharmaceutical Care Issues
?Primary prevention	Simvastatin 20mg daily	Cholesterol 3.6 review risk/benefit
?Urinary retention	Tamsulosin MR 400micrograms daily	Long term catheter in situ review need
?Gastroprotection	Omeprazole 20mg daily	Review need. Reduce to 10mg with a view to stopping

Past Medical History	Medicine History	Pharmaceutical Care Issues
Constipation	Macrogol 3350 sachets 1 sachet as required	Review use. Constipation may be caused by Ferrous sulphate
?Night cramps	Quinine 300mg nocte	Review effectiveness. Routine treatment not recommended
?Pain	Paracetamol 1g 4 to 6hourly as required	Review use.

Enter name and dosage, and if reduced/increased both before & after dosage figures

Medications stopped	Medications reduced (dosage before / after)	Medications increased Details	Medications started Details	Medication switched	Patient Safety Issues		High Risk Medications		Pharmacist Comments	Intervention Implemented	GP Comments
						Reason for Change	High Risk Yes/No	If Yes, High Risk Category			
	ymbicort 400/12 1 puff bd trial reduction				high dose steroid	Stop/Red No longer clinically appropriate	Yes	Prednisolone/Steroids	Query diagnosis of COPD. If asthma and asymptomatic as shown by little use of salbutamol then trial of step down of symbicort. Add salbutamol mdi to repeat. Note high dose steroid and increased risk of reduced bone mass. Review compliance as ordered too frequently. 240 doses is 4 months.		
?Amlodipine 5mg					BP 7/15 was 120/65	Stop/Red No longer clinically appropriate	No		BP was low 7/15, recheck and if still low then discontinue amlodipine		
Vesomni 6/0.4 MR tabs						Stop/Red No longer clinically appropriate	No		Not indicated as patient has a catheter in situ long term		
?Omeprazole 20mg od									review symptoms? Can dose be reduced?		
metformin 500mg od						Stop/Red No longer clinically appropriate	No		HbA1c is 38 and cr clearance is 20ml/min therefore stop metformin		
quinine bisulfate 300mg nocte						Switch - Clinical guidelines	No		No indication coded trial of stopping as not recommended in guidelines		
ferrous sulphate 200mg tid						Stop/Red No longer clinically appropriate	No		Iron levels still low despite long term treatment. Query anaemia of chronice disease due to low eGFR and not iron deficient picture MCV 90 ??long term use metformin can cause vit B12 deficiency. Not coded. (add to repeat if continuing)		
									Pain coded in notes but no treatment. Review?		
					kis required?		No		KIS required? Outstanding 30-3-15		
Query simvastatin 20mg nocte						Stop/Red Unrealistic delay in likely benefit e.g. statin	No		Looks like primary prevention. Assess risk benefit. (LFT ok)		
Calmurid 500g						Stop Not Issued in >6 months	No		Calmurid last used 4/1014. Review eczema symptoms and treatment.		

Care Home Polypharmacy Review

PMH

- COPD
- Hypertension
- T2DM
- Eczema
- LVF moderate

MH

- Metformin 500mg daily
- Ferrous Sulphate 200mg three times a day
- Macrogol 3350 sachets 1 sachet as required
- Simvastatin 20mg daily
- Furosemide 40mg daily
- Tamsulosin MR 400micrograms daily
- Amlodipine 5mg daily
- Quinine 300mg nocte
- Omeprazole 20mg daily
- Paracetamol 1g 4 to 6hourly as required
- Salbutamol 100micrograms 2 puffs when required
- Symbicort 400/12 1 puff twice daily
- Aqueous cream to be used as directed
- Calmurid cream to be applied as directed twice daily

Current Medication	Dose	Suggested change			Rationale for suggested change (or no change)
		Continue	Modify Dose (please specify to what)	Stop	
Metformin	500mg daily			√	eGFR 30ml/min/1.73m ² CrCl 20mls/min HbA1c 36
Ferrous Sulphate	200mg three times a day			√	Hb chronically low despite long term treatment. Bloods do not reflect an iron deficient picture. Metformin can cause Vitamin B12 deficiency Fe/Vitamin B12/folate not measured. ?anaemia of chronic disease ?investigate cause
Macrogol 3350 sachets	One sachet as required				Review use. Constipation may be caused by Ferrous sulphate
Simvastatin	20mg nocte			?	Cholesterol 3.6 review risk/benefit
Furosemide	40mg daily	√			Monitor symptoms of LVF balance between optimising treatment without deteriorating renal function.
Tamsulosin MR	400micrograms daily			√	Long term catheter in situ review need
Amlodipine	5mg daily			√	Last BP 120/65; recheck BP and review need
Quinine	300mg nocte			√	Review effectiveness. Routine treatment not recommended
Omeprazole	20mg daily		√		Review need. Reduce to 10mg with a view to stopping
Paracetamol	1g 4 to 6hrly as required				Review use.
Salbutamol 100micrograms	2 puffs when required				Review use.
Symbicort 400/12	1 puff twice daily		√		Spirometry did not support diagnosis of COPD. Not known to respiratory. If asthma trial of stepping down. Check inhaler technique
Aqueous cream	use as directed				Review use
Calmurid cream	applied as directed twice daily				Calmurid last ordered 18 months ago. Review eczema symptoms and treatment.

Care Home Polypharmacy Review



PMH

- COPD
- Hypertension
- T2DM
- Eczema
- LVF moderate

MH

- Macrogol 3350 sachets 1 sachet as required
- Furosemide 40mg daily
- Omeprazole 10mg daily
- Paracetamol 1g 4 to 6 hourly as required
- Salbutamol 100micrograms 2 puffs when required
- Symbicort 200/6 1 puff twice daily
- Aqueous cream to be used as directed



Many medicines are necessary

Some are harmful

Some are of variable benefit

Understand the patient's perspective

Taking the harm out of
polyparmacy is everyone's
responsibility



Right medicine

Right dose

Right reason

Right time

Right follow up in place

....improve quality of life



