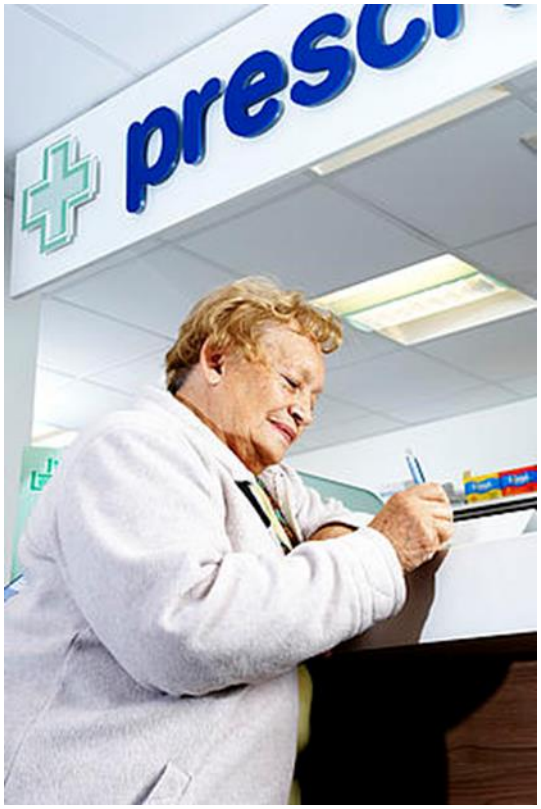
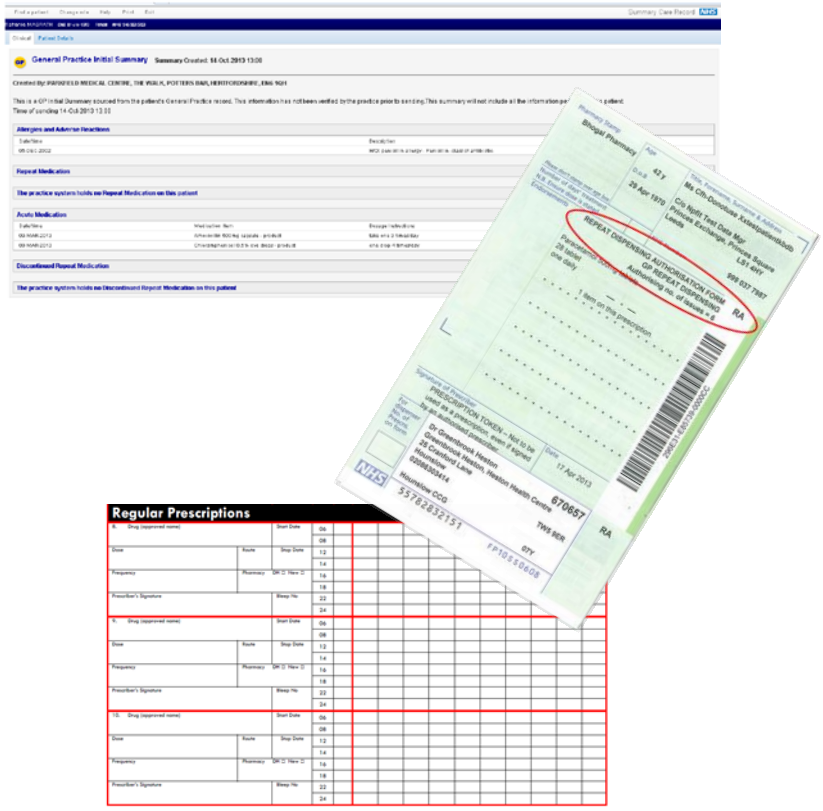
Reducing medicines waste throughout the patient journey
Simple guide and supporting information

Not using medicines as intended is a waste of scant NHS resources. Medicines are also key to the sustainability agenda with pharmaceuticals accounting for 22% of the NHS carbon footprint.





The NHS is facing financial challenges, which are estimated in the Five Year Forward View to be around £30bn in 2020/21[1].

Medicines are known to be the most common therapeutic intervention in healthcare, but their use is often suboptimal for a variety of reasons and this can lead to medicines not being used as intended and 'waste' in the health economy.

Medicines Optimisation[2], with its patient-focused approach, tries to ensure that the right patient gets the right choice of medicine, at the right time. With this focus on the patient and their experiences, decisions can be made that help the patient to improve their outcomes and take their medicines correctly. This will then lead to the avoidance of taking unnecessary medicines, medicines wastage will be reduced and medicines safety will be improved. All of which will reduce the amount of money that could be 'wasted'.

There are plenty of opportunities throughout the patient journey to make interventions that can help reduce medicines waste. This resource aims to highlight some of the key interventions that can be made and links to current good practice. To put this into clinical context a patient journey has been used to illustrate where waste can be minimised.

[1] NHS England (2014) 'Five Year Forward View' http://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf (accessed 26 Feb 2015)

[2] Royal Pharmaceutical Society (2013) Medicines Optimisation: Helping patients to make the most of medicines http://www.rpharms.com/promoting-pharmacy-pdfs/helping-patients-make-the-most-of-their-medicines.pdf (accessed 26 Feb 2015)

Contents

Case Study Background Information

Mrs B is 78, lives alone in her own home and her FP10 repeat medicines are listed below.

Ramipril 2.5mg bd x112

Aspirin 75mg od x28

Bisoprolol 5mg od x56

Omeprazole 20mg od x 28

Atorvastatin 10mg od x 28

Paracetamol 500mg 1-2 prn x100

OTC/herbals: Multivitamins with added vitamins A and D

Allergy: Trimethoprim – Skin rash

In this guide the case of Mrs B is used to illustrate how medicines issued to her but not used as intended could be reduced or avoided as she moves between care settings. Many aspects of this are dependent on her clinical condition so information on her care plan is also included. However, the clinical details are used for illustrative purposes only.

Primary care - Medicine quantities

What happened?	Clinical issues and care plan	Solutions + *Who can fix*	Information
Mrs B had to order some of her drugs every month and others every 2 months = extra work for GP surgery prescriptions staff and pharmacy + complex for patient		Synchronise quantities for regular medicines Consider pharmacy repeat dispensing service *Community pharmacy/ dispensing doctor working with prescriber & patient*	Breaking Down the Barriers: how pharmacists and GPs can work together to improve patient care Link Guidance for the Implementation of Repeat dispensing Link Pharmaceutical Services Negotiating Committee (PSNC) guidance Link Pharmacist-led repeat prescription management: Link
Mrs B ordered everything each month thinking this was best, so she accumulated unused surplus ramipril and bisoprolol at home		Better information and support for re-ordering repeat medicines. National/local messages *NHS organisations* *Community Pharmacies* *GP practices*	Campaigns aimed at patients such as 'Only order what you need' Link to Medicines Waste UK Link to Scottish campaign Link to Welsh campaign

Measure: ***MO dashboard***
Repeat Dispensing volume and Electronic Prescription use Link

Primary care - Adherence

What happened?	Clinical issues and care plan	Solutions + *Who can fix*	Information
Mrs B stopped taking the bisoprolol because she thought it was making her dizzy and she didn't want to take so many medicines. She didn't like to tell the GP or pharmacist because they were busy	Mrs B had a myocardial infarction 3 years ago. She knows she has a lot of medicines for her heart. The bisoprolol could be causing dizziness but the 'pill load' may be more important for her. Beta blockers protect the heart post MI, reducing morbidity and mortality, so non-adherence needs to be addressed	Shared decision making *Patient, Prescribers, Pharmacists, Nurses Other Health Professionals* Address polypharmacy, if appropriate consider deprescribing *Prescribers, Pharmacists,* Medicine Use Review (MUR) Advanced Community Pharmacy Service (England coverage >90%) *Community pharmacist referring to prescriber* Medication review *GP practice, Other Prescriber, Clinical Pharmacist*	NHS Constitution Link 'Ask 3 questions' Link Medicines Adherence NICE clinical guideline 76 Link PrescQIPP Optimising Safe and Appropriate Medicines Use Link Polypharmacy, oligopharmacy & deprescribing: Resources to support local delivery Link MUR service (Target group) Link NPC - Guide to Medication Review 2008 Link NSF for older people. Link Clinical Medication Review- A Practice Guide NHS Cumbria Link
Mrs B often omitted the night time dose of ramipril. It was inconvenient and she didn't think it would do much good while she was asleep	Ramipril can be taken once a day so it may well be possible to change the regimen to once rather than twice daily. The dose is quite low for cardiovascular prophylaxis so a dose increase might also be considered		Quality and Outcomes Framework (QOF) 14-15 Secondary prevention of Coronary Heart Disease (CHD) CHD 006. The percentage of patients with a history of MI currently treated with an ACE-I (or ARB if ACE-I intolerant), aspirin or an alternative anti-platelet therapy, beta-blocker and statin Link

What happened?	Clinical issues and care plan	Solutions + *Who can fix*	Information
There are numerous factors which can affect adherence, including mental health, media scares, changed guidance, and mixed messages from different professionals		Invite patients to express concerns to *all professionals involved in their care*	Supporting Medicines Adherence and 4 Es Triangle Link Improving medication adherence: Resources to support local delivery Vs1 Link

Measure: ***MO dashboard***
MUR uptake. *Link*

GP patient survey *2014: Q21 and Q23 on patient involvement* *Link*

Hospital transfer

Mrs B fell and broke her hip on Sunday morning. Her neighbour called an ambulance and she was taken to A&E

Admission to hospital

What happened?	Clinical issues and care plan	Solutions + *Who can fix*	Information
At A&E they had no medical records for Mrs B and she only remembered having paracetamol and several 'heart' medicines. She received just analgesics until Monday morning.	For this short time period, Mrs. B not having her current medicines shouldn't be harmful. For other patients on time critical medicines like anti-epileptics, insulin, drugs for Parkinson's disease there could have been significant problem.	Ambulance team support medicine transit e.g. Green medicine bags *Ambulance Trust – medicines policy implementation at all levels. Commissioners -include in contract* Lions Message in a Bottle scheme Patient held records e.g. patient passport, repeat medicines slip (right hand side of repeat prescription) kept in hand bag *Patient*	Moving Medicines Safely: Implementing and sustaining a 'Green Bag' Scheme – V2 Link Link to Lions club Message in A Bottle Project Link to My Medication Passport

What happened?	Clinical issues and care plan	Solutions + *Who can fix*	Information
		GP practices upload records to Summary Care Record so easily accessible if needed out of hours *CCGs and practices – policy to adopt SCR*	Link to Summary Care Records Link to NHS Choices Introduction to Summary Care Records
		National messages about taking medicines with you to hospital	Bag 'em Bring 'em campaign Blackpool Teaching Hospitals NHS Foundation Trust Link
	Mrs. B has not been taking the bisoprolol and misses some doses of ramipril. This will not be clear from Summary Care Record or repeat medicines list. Restarting these could cause hypotension and increase risk of falling. Mrs B is the only expert who can confirm what medicines she actually takes		
Mrs B gets admitted to the ward while waiting for surgery	Patient undergoes Medicines Reconciliation (MR)	Pharmacy–led MR *Pharmacy team*	Suite of Medicines Reconciliation resources Link
		Pharmacy interventions aimed at improving safety as well as improving the timeliness of discharge through better planning	Link to safelyHEREsafelyHOME

Measure: ***MO dashboard***
Number of trusts accessing Summary Care Record and Medicines Reconciliation. ***Link***

Summary Care Record Deployment Map *for GP practices* ***Link***

On the ward

What happened?	Clinical issues and care plan	Solutions + *Who can fix*	Information
Following surgery Mrs B is transferred to the rehab ward. The ward fails to send all medicines with Mrs B		Hospital policy on medicines transfer *Ward staff*	Keeping patient's medicines with them: Optimising the transfer and use of medicines as patients move around organisations and between care settings Link
New prescription for: Paracetamol 1g qds PRN Codeine 30-60mg qds regularly for 3 days then PRN.	Consider need for laxative with codeine use, paracetamol also prescribed by GP		
Low Molecular Weight Heparin (LMWH) Enoxaparin 40mg od	Ascertain length of LMWH treatment. NICE guidance 28- 35 days. Who will administer LMWH when discharged? Will it be District nurse or could patient self-administer?	Local venous thromboembolism (VTE) risk assessment based on national guidance *Ward staff*	NICE Clinical Guideline 92 Link A NOAC could be used instead, but at the time of writing NICE doesn't cover their use in this specific clinical situation Link, but organisations may take a pragmatic approach.
Mrs B needs to start bone protection: Calcium and Vitamin D Alendronate 70mg once a week	Endorse with formulary choice Adcal D3 chewable 1 tab bd Check calcium is within normal limits before starting alendronate.	Counsel patient on how to take alendronate and advise patient to discontinue multivitamin tablet *Pharmacy team* Remember shared decision making – Mrs B is already worried about lots of tablets. Will she take them?	Consultation skills for pharmacy practice Link

What happened?	Clinical issues and care plan	Solutions + *Who can fix*	Information
Mrs B develops a small pressure ulcer, a hydrocolloid dressing is chosen		Wound care formulary *Nursing team with pharmacy input*	Optimising Systems and Processes of Wound Care - A QIPP resource of good practice Link Top Tip QIPP messages for prescribing dressings Link
Nursing staff request a Multi-compartment Compliance Aid (MCA)	Patient assessed by pharmacy for MCA Following pharmacy assessment decide not to initiate MCA but have a reminder card	Hospital guidance on initiating MCAs *Pharmacy team*	Supporting older people in the community to optimise their medicines including the use of multi compartment compliance aids (MCAs) Link Improving medication adherence: Resources to support local delivery Vs1 Link Improving the patient experience through supporting medicines adherence: developing your local strategy Link
Mrs B is getting used to her new medicines but could benefit from some re-enforcing messages		Refer to Community Pharmacy for Discharge MUR *Hospital Pharmacy team & Community Pharmacist*	NMS MUR Patient Referral Letter and Presentation for Hospital Pharmacists Link Collation of MUR and NMS Training Resources Vs.2 Link Hospital referral to community pharmacy: An innovators' toolkit to support the NHS in England Link PrescQIPP Transfer of Care Webkit Link
Mrs B leaves hospital with all her medicines.	For many patients some medicines will not be required on discharge and there are opportunities for waste return to pharmacy and recycling.		See case study page 17 in DH (2012) Improving the use of medicines for better outcomes and reduced waste – An Action Plan Link

Measure: ***MO dashboard***
MUR & NMS Uptake ***Link***

Discharge Home

Mrs B is discharged home with the District Nurse coming in daily to administer enoxaparin and dress wound when necessary

Discharge home

What happened?	Clinical issues and care plan	Solutions + *Who can fix*	Information
Mrs B is discharged home with additional pain killers prn, bone protection and enoxaparin	What is intended regimen on discharge?	Discharge letter to GP needs complete information *Medical staff and Hospital pharmacy team*	Keeping patients safe when they transfer between care providers – getting the medicines right Link The Academy of Joint Royal Colleges (working with Connecting for Health) have developed standards discharge letters (see section 4) Link
When the District Nurse visits she finds 5 different brands of omeprazole capsules on Mrs B's kitchen table	Mrs B is unsure of which capsules to take	Education of the patient *Community Nurse & Community Pharmacist*	
		Post-Discharge MUR *Community Pharmacist*	MUR service (Target group) Link

Readmission

Six weeks later when the District Nurse (DN) visits to dress the wound she finds Mrs B confused and wandering out on the street.

Readmission

What happened?	Clinical issues and care plan	Solutions + *Who can fix*	Information
The District Nurse (DN) suspects a urinary tract infection (UTI), and contacts the GP who organises admission to the community hospital. Mrs B takes her medicines into the community hospital with her	Patient undergoes Medicines Reconciliation Ensure bone protection is part of current medicines	Pharmacy–led MR *Pharmacy team*	Suite of Medicines Reconciliation resources Link
	One of her medicines (ramipril) is labelled as twice a day but she is now taking it once a day	Clinical pharmacy team re-label medicine to reflect current frequency *Pharmacy team*	ESHT Community Health Services Pharmacy team poster Link
MSU shows sensitivity to trimethoprim and nitrofurantoin	Mrs B is allergic to trimethoprim		NICE Clinical Guideline 183 Drug Allergy Link
Starts nitrofurantoin 100mg MR BD	Ensure prescription has stop date and indication Public Health England (PHE) guidance 3 days in women.	*Pharmacy team*	Antimicrobial stewardship: Start smart - then focus Link Managing common infections: guidance for primary care Link
Ward fails to give antibiotic	Antimicrobials on list of critical medicines.	Hospital policy on critical medicines *Ward staff with pharmacy team*	Suite of delayed and omitted medicines resources Link

Discharge to a Care Home

Mrs B is discharged to a Care Home

Discharge to a Care Home

What happened?	Clinical issues and care plan	Solutions + *Who can fix*	Information
Mrs B is discharged to a care home.	There is still a need to ensure ongoing medicines optimisation.	*CCG or Care Home Pharmacy Team*	Tips for 10 Top Target Areas to implement medicines management QIPP in Care Homes Link

Suggested Further Reading

- DH (2012) Improving the use of medicines for better outcomes and reduced waste – An Action Plan Link
- PrescQIPP (2014) Improving medicines adherence and reducing waste Link
- East and South East England Specialist Pharmacy Services (2013) Supporting the DH action plan for Improving the use of medicines for better outcomes and reduced waste Vs.1.1 Link