A patient centred approach to polypharmacy

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Introduction
Over one third of over 75's in the UK take four or more medicines regularly and this increases to an average of eight medications per person per day in nursing homes. The number of medicines taken by older people has been steadily increasing for the last three decades. There are a number of factors affecting this including; the advent of evidence based medicine; increase in multiple morbidity and longevity; promotion of age-independent access to the increasing number of treatments and the increasing expectations for treatment from patients and their families. These have made polypharmacy the "rule" rather than the "exception" for many patients.

Medicines are the most common intervention to improve health and concerns about the risks of polypharmacy in primary and secondary care are growing, supported by evidence which associates polypharmacy with increased adverse drug events, hospital admissions, increased health care costs and non-adherence.[1,2] This has led to the suggestion that " *Polypharmacy itself should be conceptually perceived as a "disease" with potentially more serious complications than those of the diseases these different drugs have been prescribed for"*.

Terminology
Polypharmacy is a term that refers to either the prescribing or taking many medicines. For many years it referred to the prescription or use of more than a certain number of medicines, at least four or five or more medicines per day.[3] More recently it has been used in the context of *prescribing or taking more medicines that are clinically required,* as the number of medicines taken was of limited clinical value in interpreting individual potential problems. The Kings fund[2] divides the definition into "appropriate" and "problematic" polypharmacy which is a helpful distinction in practice. There are number of terms which have come into use over recent years to describe multiple medicines use including and hyperpolypharmacy, see box below.


- **Appropriate polypharmacy** "Prescribing for an individual for complex conditions or for multiple conditions in circumstances where medicines use has been optimised and where the medicines are prescribed according to best evidence."
- **Problematic polypharmacy** "the prescribing of multiple [medicines] inappropriately, or where the intended benefit of the [medicines are] not realised."
- *Oligopharmacy* seeks to promote the deliberate avoidance of polypharmacy, which if considered in terms of numbers of medicines, is the prescribing of less than 5 prescription drugs daily.[4]
- *Deprescribing* is the complex process required for the safe and effective cessation (withdrawal) of inappropriate medication, recognising that much of the evidence to support stopping medicines is empirical and based on the patient's physical functioning, co-morbidities, preferences and lifestyle.
- *Hyperpolypharmacy* is a new term referring to the prescribing of ten or more medicines and the phrase has come into use to distinguish it from polypharmacy, which is increasingly common.[5]

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[1] http://www.central.knowledge.scot.nhs.uk/upload/Polypharmacy%20full%20guidance%20v2.pdf

[2] http://www.kingsfund.org.uk/sites/files/kf/field/field_publication_file/polypharmacy-and-medicines-optimisation-kingsfund-nov13.pdf

[3] http://www.wales.nhs.uk/sites3/documents/814/PrescribingForFrailAdults-ABHBpracticalGuidance%5BMay2013%5D.pdf

[4] O'Mahoney D, O'Connor MN. Pharmacotherapy at the end-of-life**.** Age and Ageing 2011; 0: 1–4 doi: 10.1093/ageing/afr059
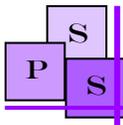
Understanding the increase in polypharmacy and the challenges
This can largely be attributed, over the last 20 years, to the greater availability of evidence-based treatments promoted through therapeutic guidelines. The use of antiplatelets post MI and stroke are a good example. However until now, guidelines have been written for management of single disease states. Patients with long term conditions, especially older people, commonly suffer from a number of conditions and these guidelines are designed for single condition treatment. In addition, each condition is often treated by separate clinicians and the lack of a contemporaneous medication record, available to all health care providers and patients in the UK, means that polypharmacy often ensues. With the increase in number of medicines available for purchase without prescription and the poor co-ordination and communication of clinicians managing medicines, accurate medication review is often a challenge.

Prescribers caring for patients with multiple morbidities are further challenged by the absence of evidence based national guidance around reducing and stopping medication and incorporating the patient perspective. Also how to address the various interconnected factors associated with multi-morbidities and frailty that prevent medicines optimisation. Polypharmacy is associated with an increased risk of adverse effects, falls, drug interactions, drug disease interactions, drug errors and poor medicines adherence.

The process
In order to address polypharmacy, clinicians need a structured approach which is flexible enough to be individualised. This process has been developed using the expertise of medicines information to provide the evidence and the expert practice of senior practitioners caring for patients with polypharmacy issues. Developed by Nina Barnett and Lelly Oboh, Consultant Pharmacists working with Older People, Medicines Use and Safety Team, NHS Specialist Pharmacy service, and Katie Smith, Regional Medicines Information Director, East Anglia Medicines Information Service, it is based on published evidence and current practice and has been reviewed by clinicians who work directly with patients. A list of key reference documents with content summary is provided following the process together with references for further reading.

It is designed to assist with collaborative medication review and decisions around deprescribing in the context of polypharmacy and aims to address polypharmacy as part of overall medicines optimisation strategies. It provides links to more detailed documents to support medication review, of which there are many.
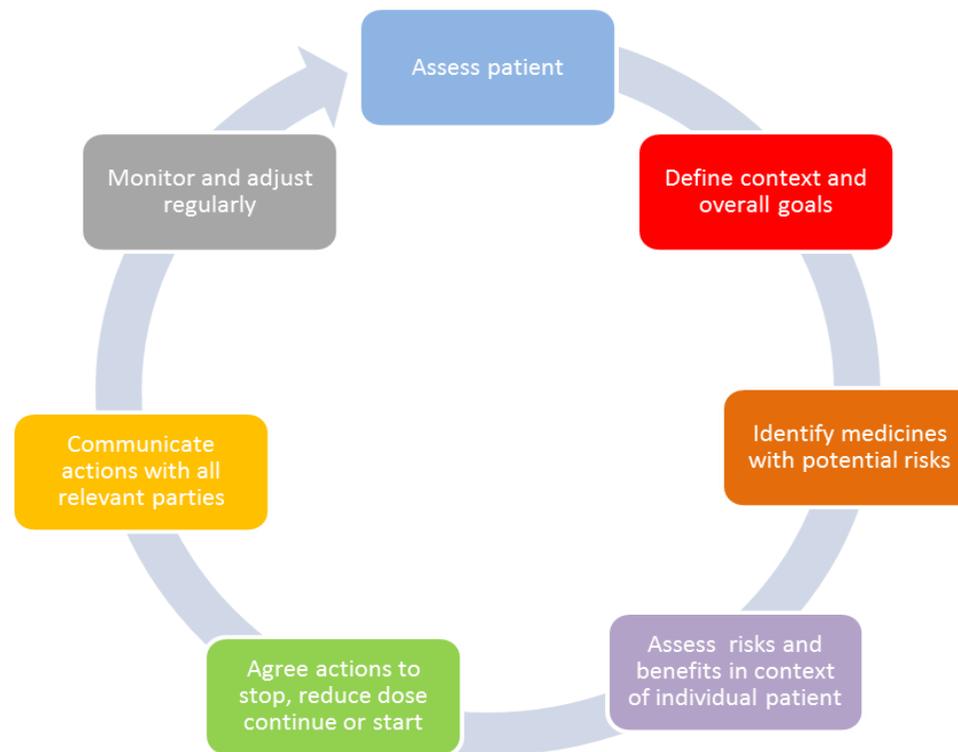
It is anticipated that following the process from start to finish will ensure that deprescribing is done in a safe, effective, co-ordinated and efficient way to optimise medicines use and produce patient related outcomes in addition to clinical markers. Ideally a clinician with the right expertise to undertake medication reviews for older people should lead or co-ordinate the process to ensure that the right outcomes are achieved for all aspects of medicines related care. It can be used in successive consultations to address one or a small number of polypharmacy issues identified in the context of the patients overall goals. While it is likely to be most applicable in community settings, the principles can be applied to all patient care settings and clinician encounters with patient where medicines are discussed or reviewed eg. MURs.
We hope that it will assist practitioners in patient-centred polypharmacy management towards overall medicines optimisation for patient benefit.

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[5] Gnjidic D, Le Couteur DG, Pearson S-A, et al. High risk prescribing in older adults: prevalence, clinical and economic implications and potential for intervention at the population level *BMC Public Health* 2013; 13:115 http://www.biomedcentral.com/1471-2458/13/115

A patient centred approach to managing polypharmacy in practice

Assess patient

Define context and overall goals

Identify medicines with potential risks

Assess risks and benefits in context of individual patient

Agree actions to stop, reduce dose continue or start

Communicate actions with all relevant parties

Monitor and adjust regularly

©Nina Barnett Lelly Oboh & Katie Smith, NHS Specialist Pharmacy Service vs 2 May 2015

The patient centred approach to managing polypharmacy provides practical support for clinicians in embedding medicines optimisation into everyday practice through *patient centred*, safe, evidence based medication review in the management of polypharmacy

The purpose behind each of the seven steps is explained on the next 2 pages and there is guidance on points to consider, actions to take and questions to ask in order to reduce polypharmacy and undertake deprescribing safely. Although patients with polypharmacy often have multiple medicines-related issues, the guide allows the practitioner to prioritise the issues based on the importance to the patient, risks, benefits and current evidence and then focus on one or a small number of key concerns rather than trying to solve all the problems at once. The guide emphasises the need for effective communication with the patient, their family/carers and other healthcare professionals at all seven steps of the process to ensure any changes made are actioned and followed up.
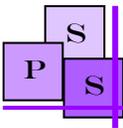
1. **Assess patient's needs:** *The purpose of this is to identify medicines related problems and establish the patient's perspective and priorities including what the patient wants to focus on now*

   - What medicines matter to the patient and/or carer, any problems they have, what they want to discuss or review.

   - Their experience of taking medicines and how it fits into their typical day.

   - Ask the patient what they want from the review.

   - Obtain functional history from patient and/or carer.

   - Conduct medication reconciliation to establish what they are taking and how.

2. *Define context and overall goals:* *The purpose of this is to find out how medicines use fits in with or impacts on their overall health goals with respect to patient's functionality, life expectancy and frailty*

   - Obtain medical, social and drug history from available health records.

   - Do they have shortened life expectancy? Are they frail?

   - Based on your assessment in Steps 1 & 2 agree the medicine-related issues/benefits they want to be addressed for this visit.

3. **Identify all potentially inappropriate medicines from an accurate list of medication:** *The purpose of this is to consider ALL the medicines the patient according to the best available research evidence and in relation to the patient perspective.*

   - Use an evidence based tool e.g. NHS Cumbria tool kit (or another version of STOPP/START).

4. **Assess risks and benefit in the patient context and discuss with patient to identify the actual inappropriate drugs and priorities to review:** *The purpose of this is to confirm or refute the inappropriateness of each drug identified in Step 3 based on the individual patient priorities and any immediate clinical priorities.*

   - Identify any new symptoms/conditions, review in relation to when the medication was started and address

   - Ask about conditions which are active/inactive, time bound, resolved?

   - Is there a valid indication for each drug?

   - What perceived/actual harms or benefits are they experiencing for each drug in relation to their condition -

     o Start with general, open questions e.g. "Tell me about your pain medicines"

     o Move towards more specific, closed questions e.g. "Do you think the medicine is working?"

- Explore specific risks & benefits for each drug for your individual patient circumstances including shortened life expectancy. Are they essential drugs like levothyroxine?

- The objective is to ensure that EACH medicine is tailored to the patient's circumstances, clinical and social situation and co-morbidities. Consider patient preferences and ability to adhere to the agreed regimen.

5. **Agree actions to stop, reduce dose continue or start:** *The purpose of this is to agree actions with the patient and the prescriber.*

- Agree a way forward with the patient, including explaining referral to   prescriber where appropriate.

- Present options to prescriber in simple format.

- Where appropriate, provide a written summary to the prescriber and/or in the patient's record, highlighting rationale, agreed action and monitoring, with a copy to the patient.

6. **Communicate with other relevant parties as appropriate:** *The purpose of this is to facilitate the implementation of medication-related actions and ensure support from all relevant parties.*

- Produce a written summary highlighting rationale, agreed action for each drug change and monitoring. Provide to the community pharmacist, social care, allied health professionals, care home staff and hospital clinicians as needed. Follow local guidelines around consent/governance.

- Document review so information can be accessed by relevant people, following local processes.

7. **Monitor, review and adjust regularly:** *The purpose of this is to maintain continuity of care by ensuring a robust chain of professional responsibility.*

- Discuss the monitoring patient can expect, by whom and when.

- Inform others who need to know about the changes made and/or act on them (with the patient's consent as appropriate).

- Ensure changes are clear, especially if no prescription will follow.

Tools and Initiatives to support practice
1 Primary Care	**Organisation: NHS Harrow** **Organisation's Website:** http://www.harrowccg.nhs.uk/ **Title: Review of patients with 10 or more items on repeat prescription** **Overview:** This document was produced as part of a local improvement scheme. It describes the rationale for reviewing patients in this group and provides a standard operating procedure for "level 2" medication review (without the patient) in GP practices as a five step process. The appendices include a medication review template, checklist for medication review, action planning form and two worked case examples. **See link** http://www.medicinesresources.nhs.uk/upload/documents/Communities/SPS_E_SE_England/NHS%20HARROW%2010+%20medications%20PSD%20Harrow%20CCG%20LIS%20July%202014.pdf
2 Primary Care	**Organisation:** NHS Lambeth Clinical Commissioning Group **Organisation's Website:** http://www.lambethccg.nhs.uk/Pages/Home.aspx **Title:** Polypharmacy and Medicines Adherence Review. **Overview:** This is a comprehensive document which supports full medication review with the patient, based in primary care. The tool contains protocols for medicines review and adherence support and requires the clinician to have completed the Kings College on line 'FutureLearn' course on medicines adherence. The five step protocol identifies patients prescribed eight or more repeat medicines, prioritising those with recent hospital attendances. The protocol includes instructions for comprehensive medication review and provides appendices to support and document the review. The final step of the protocol outlines patient and prescriber responsibilities post review. A summary flow chart with links to relevant documents is provided. The appendices include a medicines review proforma, medicines adherence questionnaire (patient survey) for patient completion prior to the consultation and detailed suggestions to support practitioners in working with patients who are challenged by unintentional or intentional non-adherence issues. An EMIS web template for standardising medication reviews and, searches to identify appropriate patients are also available for interested practitioners. **See link:** http://nww.lambethccg.nhs.uk/Directorates/ICA/MedicinesManagement/Medicines%20adherence/Polypharmacy%20and%20Adherence%20tool%20FINAL%204.pdf

3 Primary Care	**Organisation: North West London Commissioning Support Unit** **Organisation's Website:** www.nwlcsu.nhs.uk **Title:** Toolkit for managing poly-pharmacy in clinically complex patients **Overview:** This document focusses on providing detailed guidance to GP practice based pharmacists to undertake medication review clinics focussing on reducing inappropriate polypharmacy. Targeting patients on 10 or more medicines or with other risk factors, the procedure outlined allows practitioners to identify patients, set up and run medication review clinics in practices, work with patients to address polypharmacy issues and therefore reduce inappropriate polypharmacy to improve patient care in a concordant way. The appendices provide excellent support for undertaking these reviews including a flow chart of the process, a variety of template letters to engage GP practices and patients, an outline of the drug review process and of the medicines related consultation framework as well as an aide memoire for use in the consultation. The appendices also contain evaluation and patient survey paperwork. Practitioners who undertake these reviews have undertaken skill development around adherence. **See link:** http://www.medicinesresources.nhs.uk/upload/documents/Communities/SPS_E_SE_England/Medication%20Review%20toolkit%20updated%20Sep%2014v2.pdf
4 Primary Care	**Organisation: NHS Cumbria and NHS Brent Clinical Commissioning group/** **Organisation's Website:** http://www.cumbria.nhs.uk/ www.**brentccg**.nhs.uk/ **Title:** Tools to support prescribers in optimising benefit from medication review **Overview:** These resources support medication review in practice with the aim of using evidence from STOPP START to support reduction of polypharmacy. The Medication Review Practice Guides include a description of what is and what is not a medication review and a checklist as well as outlining principles of medication review, who to review, high risk groups and targeting reviews. It provides detail on the process for reviewing each drug and gives guidance regarding implementation, documentation and follow up of recommendations. Appendices include a simple screening tool to use with patients, sample patient information leaflet and NNT data to support review of commonly used medicines, classified by BNF chapter. The linked document, STOPP START Toolkit provides a clear introduction to the rationale for medication review and, using simple colour coding, classifies medicines for consideration according to the STOPP, START or NICE/local guidance. **The Brent document was produced with the help of resources from the NHS Cumbria Medicines Management Team.** **Cumbria:** http://www.networks.nhs.uk/nhs-networks/nhs-cumbria-ccg/medicines-management/guidelines-and-other-publications/Medication%20Review%20practice%20guide%202013.pdf/at_download/file **or** http://www.cumbria.nhs.uk/ProfessionalZone/MedicinesManagement/Guidelines/MedicationReview-PracticeGuide2011.pdf

	Brent: *http://www.medicinesresources.nhs.uk/upload/documents/Communities/SPS_E_SE_England/STOPP%20START%20Toolkit.pdf* **or** http://www.medicinesresources.nhs.uk/upload/documents/Communities/SPS_E_SE_England/Medication%20Review%20Practice%20Guide%202014.pdf
5 Primary Care	**Organisation: NHS Lambeth CCG** **Organisation's Website:** http://www.lambethccg.nhs.uk/Pages/Home.aspx **Title: In-depth Medication Assessment Form** **Overview:** This document aims to support practitioners to identify and record the medicines related risks and needs of an individual and evaluate the impact on daily living and quality of life, so that appropriate action can be planned to improve patient outcomes by reducing inappropriate polypharmacy, engaging with the patient, improving adherence and reducing risks. The tool utilises a personalised, co-ordinated and outcome focused approach based on the principles of Medicines Optimisation, the Single Assessment Process and Common Assessment Framework for older people which originated from work around the National Service Framework for Older People (2001) and local experience of the past ten years. It presents an opportunity to ensure better integration of medicines related needs within overall patient assessment and care planning process. The tool and process are designed to consider the whole range of patient's medicines needs and feed into overall patient care to prevent duplication and encourage information sharing. Completion of the tool results in a personalised care plan that meets the specific needs identified rather than providing a service or undertaking a task. Adequate training of staff using the tool, supervision and support is considered vital for safe, effective patient care. This tool facilitates comprehensive documentation of medication review and can be used in its entirety or in specific section. The document includes demographic data and checklists for high risk medicines, access, compliance and day-to-day medication management issues, patient knowledge of, attitude and ability to take meds as well as an assessment of patient's ability to agree to actions around medication taking. The paperwork includes a short pharmaceutical care plan and details for follow up. **See link:** http://www.medicinesresources.nhs.uk/upload/documents/Communities/SPS_E_SE_England/Assessment%20tool.pdf
6 Primary Care	**Organisation:** West Hampshire CCG **Organisation's Website:** http://www.westhampshireccg.nhs.uk/ **Title:** Medicines optimisation detail aid: Medicines Optimisation LES 2013/4 Intervention 12 Polypharmacy **Overview:**

	This concise document outlines rationale, evidence and a process for medication review of older people taking multiple medications. The three page summary is supported by a detailed appendices including a list of medicines to consider for review, a falls risk table for medicines, a medication review template and a checklist for practice. **See link:** http://www.westhampshireccg.nhs.uk/documents/doc_view/364-12-polypharmacy-detail-aid-amended-11-sep-13
7 Primary Care	**Organisation**: NHS West Hampshire Clinical Commissioning Group **Organisation's Website:** www.westhampshireccg.nhs.uk **Title:** Use of web-based mortality indices to support medicines optimisation and reduce polypharmacy **Overview** This easy to use web based tool utilises accurate estimates of longevity using mortality indices (eg, see http://eprognosis.ucsf.edu) to support reviews to minimise the use of drugs that are unlikely to prevent disease events within the patient's remaining life span. It identifies when, rather than how much benefit drugs aimed at preventing future disease events (such as statins and bisphosphonates), may confer. If the time until benefit exceeds the patient's estimated life span, no benefit will result, while the adverse drug event risk is constant and immediate. Undertaking such reconciliations is facilitated by accurate estimation of longevity and drug-specific time until benefit using trial-based time-to-event data. Email: liz.corteville@nhs.net
8 Primary Care	**Organisation:** New Devon CCG **Organisation's Website:** : n/a **Title of initiative/tool:** Using STOPP/START tool when undertaking clinical medication reviews for care home patients. **Brief overview:** Reviews are conducted for patients with polypharmacy issues in care home. Pharmacists undertaking clinical medication reviews in care homes using STOPP/START tool. Recommendations are reviewed with GP afterwards. While the STOPP/START tool is currently being used, Devon CCG have a group looking at whether to create a local version including links to formulary etc. Contact: gail.foreshew@nhs.net

9 Primary Care	**Organisation**: Somerset CCG **Organisation's Website:** : n/a **Title**: Eclipse Live tool **Overview**: Somerset is one of a number of CCGs which have commissioned the Eclipse Live tool which enables use of predefined or locally defined algorithms to identify and stratify risky polypharmacy. More importantly it also allows risky (non polypharmacy) prescribing to be identified by looking at outcomes ie the effect the prescribing is having on patient's blood tests etc . **Contact** Shaun.Green@somersetccg.nhs.uk
10	**Organisation:** Coventry and Rugby CCG **Organisation's Website:** : n/a **Title:** **Overview:** Project to reduce adverse drug reactions in people over 80 years taking eight or more medicines. Face to face medication review was undertaken by medicines management pharmacists, using an evidence-based protocol to minimise polypharmacy, for 4,037 medicines taken by 415 patients. Review resulted in 512 items being discontinued. **Details:** http://www.pharmaceutical-journal.com/publications/videos/pharmaceutical-care-award-winners-2015-discuss-their-primary-care-project/20068855.article and http://www.pharmaceutical-journal.com/your-rps/pharmacist-support-helps-gps-reduce-polypharmacy-burden/20068786.article
11 Care Homes	**Organisation :** Leeds North CCG **Organisation's Website:** : n/a **Title of initiative/tool:** Pharmacist Care Homes Medication review for residential and nursing homes – System 1 (S1) and Egton Medical Information Systems (EMISweb) templates **Brief overview:** Leeds North CCG have developed an aide-memoire template for use on GP systems that can be followed when carrying out and recording medication reviews to ensure that all relevant areas of the resident's medication use and relevant health information are identified and addressed. There is particular reference to considering whether specific medications can or should be stopped, or patients can undergo a trial of stopping the medication. Once the information has been entered into the template it forms part of the patient's GP medical record and is visible to all healthcare professionals at that practice. Changed medications are automatically updated on the NHS Spine. Both S1 and EMISweb versions of this template are given in the links below.

	A more generic version of this template has also been developed to apply to the general population and it can be further amended to be applicable to other larger cohorts or at-risk groups requiring medication review. Versions are available for both S1 and EMISweb and an update to the EMIS version in response to in-use feedback is planned. The Data Quality Team at the Commissioning Support Unit are in the process of developing reporting tools to allow data collection on the interventions made and recorded using these templates. Contact: ellywakeling@nhs.net See links: Link 1, Link 2, Link 3, Link4a, Link 4b, Link 5
12 Care Homes	**Organisation:** NHS Lanarkshire **Organisation's Web-site:** http://www.nhslanarkshire.org.uk/Pages/default.aspx **Title:** NHS Lanarkshire Care Homes Protocol Group. Prescribing and Polypharmacy Guidelines 2013 **Overview:** This guidance addresses polypharmacy as part of the overall pharmacy service to care homes. It includes guidance on medication review (full or NPC level3 for polypharmacy reviews), end of life care and general care home pharmacy prescribing support as well as polypharmacy guidance. It is intended for use in GP practices to support practitioners in providing an evidence based, rational approach to prescribing and deprescribing. It includes lists of high risk combinations of drugs, drugs commonly causing hospital admission, drugs that are high risk in older people including consideration of hypotension, diabetes, antipsychotic treatment, laxatives and drugs with additive adverse effects. There is also a section specifically devoted to management of polypharmacy in patients with limited life expectancy including patients with dementia and frailty. Suggestions around drug groups to review, what drugs are associated with symptomatic decline and use of liquids. This document is useful for care of patients in care homes and in their own homes as the principles that apply are broadly similar. **See link: http://www.nhslanarkshire.org.uk/Services/CareHomeLiaison/Documents/Prescribing-and-Polypharmacy-Guidelines-Final-090212.pdf**
13 Care Homes	**Organisation:** NHS Enfield CCG **Organisation's Web-site:** http://www.enfieldccg.nhs.uk/ **Title:** Reducing polypharmacy and safeguarding medicines use in care homes **Overview**: This presentation and summary outlines how a care home pharmacist, working with the local authority, implemented a care home service aimed at improving the quality of healthcare provision to frail elderly residents of care homes within the borough of Enfield. The pharmacist worked with the multidisciplinary care home assessment team. The pharmacist provided clinical medication reviews which included reduction of polypharmacy together with reducing waste and optimising overall prescribing and processes in the homes. The presentation outlines the process and provides case examples and top tips for initiating this services. A reference list is included in the presentation. Contact: Zeshan.Ahmed@enfieldccg.nhs.uk

	See links: **http://www.medicinesresources.nhs.uk/GetDocument.aspx?pageId=778421** **also** *http://www.medicinesresources.nhs.uk/upload/documents/Communities/SPS_E_SE_England/Retrospective%20outline%20of%20care%20homes%20post.pdf*
14 Secondary Care	**Organisation:** Gloucestershire Hospitals NHSFT **Organisation's Web-site:** www.gloshospitals.**nhs**.uk and www.**gloucestershireccg**.nhs.uk **Title:** PIDE (Potentially Inappropriate Drugs in the Elderly) **Brief overview:** This document summaries both the Beers Criteria and the STOPP/START tool in a one page table format including the classes of drugs which were often inappropriate in frail older people. Criteria for review of antihypertensive and anti-diabetic medication were included following work with Stroke, Endocrinology and General and Old Age Medicine consultants, These reviews are conducted working with the Older Persons' Assessment and Liaison Team (OPAL) . The tool has been circulated to CCG and Gloucester Care Services Trust for use across sectors by doctors, nurses and pharmacists working in this field. It is being piloted on the Acute Care Unit at Cheltenham General Hospital from October 2014 and data is being collected on reasons for stopping medicines and cost avoidance. The CCG is supporting this pilot project. The aim of this work is to educate prescribers within the Trust and guide medication review using pharmacist prescribers alongside doctors. Contacts: Pamela.Adams@glos.nhs.uk **See** http://www.medicinesresources.nhs.uk/upload/documents/Communities/SPS_E_SE_England/PIDE%20table%20final.pdf

Key resources

Organisation: NHS Scotland and The Scottish Government
Website: http://www.healthscotland.com/ http://www.scotland.gov.uk/

Title: Polypharmacy Guidance October 2012, updated March 2015

Overview: The 2012 guidance is a comprehensive and robust 47 page document is presented in three sections. The first outlines the rationale for addressing polypharmacy, identifies patient groups who may benefit from polypharmacy related medicines review and the general content of the review. While the document recommends using SPARRA (Scottish Patients at Risk of Readmission and Admission) prediction tool data to identify local high risk groups, this concept is readily transferable to other localities where different tools are used. The second section gives clinical information using evidence based sources to support conducting a review explaining the meaning of and including numbers needed for to treat (NNT) and numbers needed to harm (NNH) for individual drugs and drug groups. . The drug review process described is clinically focussed and supports practitioner with the clinical information needed to conduct an effective review. Risk from high risk medication is discussed individually and by BNF categories, as well as identification of clinical conditions of patients which can increase the risks from polypharmacy. Primary references are given. The final section on administrative consideration includes useful information on how to conduct reviews however embedded documents are not available directly through the link.
The updated 2015 guidance by the Scottish Government Model of Care Polypharmacy Working Group provides additional background information about the interplay between polypharmacy, frailty and multi-morbidity. More detail on populations to target when identifying high risk groups is given and there is a new approach to polypharmacy medication review in the form of a seven steps approach to managing medication. This is useful method of considering each medication in terms of the benefit and risk to an individual patient, including an evidence based approach and while it discusses a patient centred approach to polypharmacy, the seven steps are written from a clinician perspective. The updated guide also includes key issues for medication review on a drug by drug and drug class basis listed by BNF categories. A new addition to the guidance is the 'hot topics' section which highlights key conditions and drugs which merit special attention, such as review of antipsychotic medication, falls risks with medication etc. The NNT information has stayed in and as with the first version, the guide is beautifully presented and well referenced. While one of the methods of identifying high risk populations is based on Scottish data, this is easily transferable for use with local tools e.g. PARR, BIRT 2
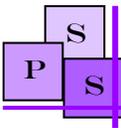
See http://www.central.knowledge.scot.nhs.uk/upload/Polypharmacy%20full%20guidance%20v2.pdf (Oct 2012)

See http://www.sehd.scot.nhs.uk/publications/DC20150415polypharmacy.pdf (March 2015)

Organisation: NHS Wales Health Board
Website: http://www.wales.nhs.uk/

Title: Polypharmacy: Guidance for Prescribing in Frail Adults Practical guide, full guidance, BNF sections to target

Overview: An excellent summary is a practical introduction to practitioners who are interested in implementing polypharmacy reviews in their workplace. The document covers similar ground to the Scottish guidance and presents the information in one page flow–chart based summaries of background; drug review process; high risk medication; frailty and shortened life expectancy, ending with useful links. The more detailed full guidance is also available which describes key considerations around polypharmacy, provides a medicines effectiveness summary table (with numbers needed to treat for specified conditions) and gives explains the practicalities for stopping specific groups of medicines. The appendices contain an example medicines review leaflet for patients and a list of helpful resources as well as references. The supplementary guidance is set out in BNF order and describes key risks for each drug group and points for consideration during medication review to reduce inappropriate polypharmacy. Links to relevant guidelines including NICE are given together with advice on deprescribing and follow up/monitoring.

See practical guide
http://www.wales.nhs.uk/sites3/documents/814/PrescribingForFrailAdults-ABHBpracticalGuidance%5BMay2013%5D.pdf
Full guidance
http://www.awmsg.org/docs/awmsg/medman/Polypharmacy%20-%20Guidance%20for%20Prescribing%20in%20Frail%20Adults.pdf
BNF guidance
http://www.awmsg.org/docs/awmsg/medman/Polypharmacy%20Supplementary%20Guidance%20-%20BNF%20Sections%20to%20Target.pdf

Organisation: Kings Fund
Website www.kingsfund.org.uk/

Title: Polypharmacy and medicines optimisation : Making it safe and sound
Overview: This 68 page 2013 report is a detailed look at how polypharmacy manifests in different care settings, key issues and areas for development. It introduces the concept of appropriate and problematic polypharmacy. It highlights both the benefits of appropriate polypharmacy and the risks of problematic polypharmacy in clinical and patient-centred term and both medicines waste and poor adherence to treatment are included in the problems of problematic polypharmacy. Recognising that most evidence for use of medicines is for single conditions it identifies the gap in multi-morbidity guidelines (which is currently being addressed by NICE). Recommendations for practice are given regarding shortened life expectancy and managing long term conditions, including the importance of overview by one clinical team of all long term conditions. The need for clinician training in multimorbidity is highlighted. The document specifically addresses polypharmacy and use of monitored dose systems, polypharmacy in care homes and discusses issues around stopping medicines

See http://www.kingsfund.org.uk/sites/files/kf/field/field_publication_file/polypharmacy-and-medicines-optimisation-kingsfund-nov13.pdf

Organisation: PrescQIPP NHS Programme
Website: http://www.prescqipp.info/

Title: Polypharmacy and Deprescribing

Overview: PrescQIPP has produced a number of resources to support practitioners in reducing polypharmacy. The web pages outline the background to this area and describe the current work of the project, including a landscape review of polypharmacy and deprescribing, a bulletin and support for GP practice audit to identify patients at risk. The Safe and Appropriate Medicines Briefing (June 2013) outlines the top ten therapeutic areas/drug classes to focus on. The Safe and Appropriate Medicines Bulletin (June 2013) uses BNF classes to highlight potential clinical and cost issues with medication to support medicines optimisation and reduce polypharmacy. There is a useful patient information leaflet provided as an appendix and a poster which summaries the work undertaken. The most recent addition to these resources is the 'landscape review', a survey of CCGs and CSUs systems and tools used, meaning of and attitudes to polypharmacy and deprescribing, local projects and challenges to implementation. Key findings include the difficulty of the terminology for patients and the need for public education and the desire for sharing resources.

See http://www.prescqipp.info/projects/polypharmacy-and-deprescribing
and http://www.prescqipp.info/safe-appropriate-medicines-use-deprescribing/viewcategory/190-safe-and-appropriate-medicines-use

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