Polypharmacy toolkit

Based on A patient centred approach to polypharmacy document produced by Specialist Pharmacy Service

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]

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.

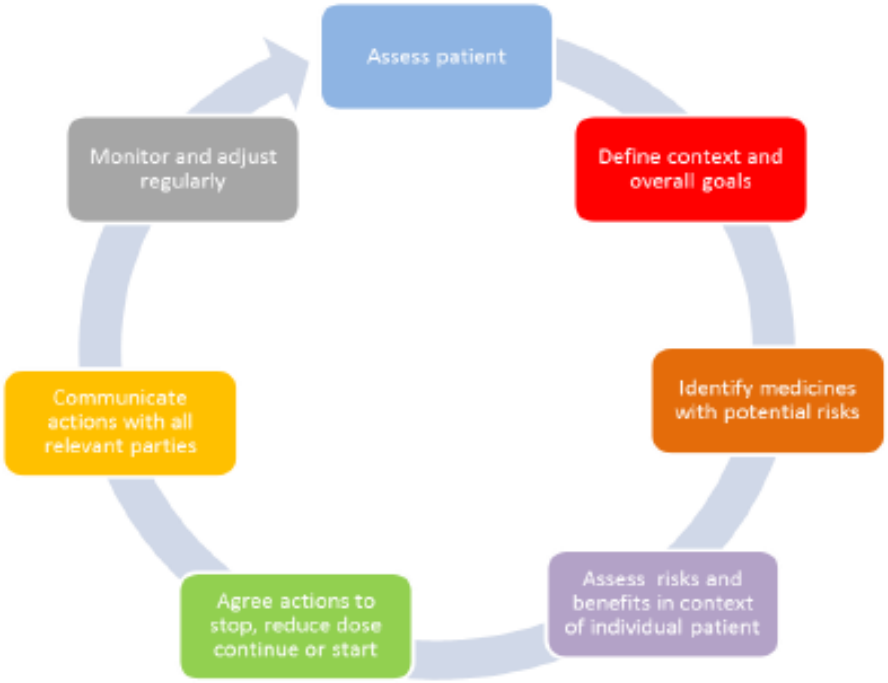
It is designed to assist with collaborative medication review and decisions around deprescribing in the context of polypharmacy and aims to address polypharmacy as part of overall medicines optimisation strategies. It provides links to more detailed documents to support medication review, of which there 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.

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



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

Key Resources

Organisation: NHS Scotland and The Scottish Government
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
http://www.sign.ac.uk/pdf/polypharmacy_guidance.pdf
Scottish Polypharmacy Website
http://www.polypharmacy.scot.nhs.uk/about/
This content of this website/app is based on the second edition of the Scottish Government's national guidance on polypharmacy. This builds upon and refines the previous guidance from 2012. The ‘7-steps’, defined within this guidance, aim provide a clear structure for the medicines review process, centred on the needs of the individual as a whole, and encouraging the dialogue between clinician and patients to include non-pharmacological solutions as well as medication ones. This guidance aims to support those carrying out comprehensive face - to -face medication reviews with patients and where appropriate carers/welfare proxies. It also contains much information that patients will find useful.

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.pdf
BNF guidance
http://www.awmsg.org/docs/awmsg/medman/Polypharmacy%20Supplementary%20Guidance%20-%20BNF%20Sections%20to%20Target.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

Individual GP practices will require to register with Prescqipp to gain access to the polypharmacy/deprescribing resources. See following link:
https://www.prescqipp.info/register/registers

Organisation: National Institute for Health and Care Excellence
Website: https://www.nice.org.uk/guidance/ng56
Title: Multimorbidity: clinical assessment and management (NICE Guideline 56; September 2016)
Overview: This guideline covers optimising care for adults with multimorbidity (multiple long-term conditions) by reducing treatment burden (polypharmacy and multiple appointments) and unplanned care. It aims to improve quality of life by promoting shared decisions based on what is important to each person in terms of treatments, health priorities, lifestyle and goals. The guideline sets out which people are most likely to benefit from an approach to care that takes account of multimorbidity, how they can be identified and what the care involves.
NICE have produced a database of treatment effects and is designed to inform discussions between patients patients with multimorbidity and healthcare professionals when considering the benefits and harms of long term treatments The database contains recommendations on medicines use from NICE guidelines on single health conditions.

See https://www.nice.org.uk/guidance/ng56/resources

Organisation: Canadian Deprescribing Network (CaDeN)
Website: www.deprescribing.org

Overview This website was developed by Dr. Barbara Farrell & Dr. Cara Tannenbaum who are a pharmacist and physician who work with older people and are concerned about the risks associated with medications in this population. The vision for this website is to share and exchange information about deprescribing approaches and deprescribing research with the public, health care providers and researchers. This includes deprescribing guidelines and alorithms (PPIs, benzodiazepines, antipsychotics, and antihyperglycaemics to date) and patient deprescribing pamphlets.
See: http://deprescribing.org/resources/deprescribing-guidelines-algorithms/
And http://deprescribing.org/resources/deprescribing-information-pamphlets/

Organisation: NHS Cumbria
Organisation's Website: http://www.cumbria.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.

STOPP START tool
http://www.cumbria.nhs.uk/ProfessionalZone/MedicinesManagement/Guidelines/StopstartToolkit2011.pdf

Clinical Medication Review: A practice guide
http://www.cumbria.nhs.uk/ProfessionalZone/MedicinesManagement/Guidelines/MedicationReview-PracticeGuide2011.pdf

Further References
1) How to Guide: Joining the systmOne Frailty Organisation Group & downloading the STOPPmed Protocol    STOPP SystmOne How to Guide v_1 0 A
2) Full list of STOPP & START criteria with references    afu145supp Version 2 STOPP START Oct 2
3) STOPP/START criteria for potentially inappropriate prescribing in older people: version 2. O'Mahony et al. Age and Ageing 2014:0:1-6. https://academic.oup.com/ageing/article/44/2/213/2812233/STOPP-START-criteria-for-potentially-inappropriate
4) Application of the STOPP/START criteria: a systematic review of the prevalenceof potentially inappropriate prescribing in older adults, and evidence of clinical,humanistic and economic impact. Hill-Taylor et al. Journal of Clinical Pharmacy and Therapeutics, 2013, 38, 360–372 http://onlinelibrary.wiley.com/doi/10.1111/jcpt.12059/pdf
5) The Kings fund; Polypharmacy and medicines optimisation https://www.kingsfund.org.uk/publications/polypharmacy-and-medicines-optimisation
6) NICE guideline 5: Medicines optimisation: the safe and effective use of medicines to enable the best possible outcomes. March 2015 https://www.nice.org.uk/guidance/ng5
7) NICE Key therapeutic topic 18: Multimorbidity and polypharmacy. January 2017

https://www.nice.org.uk/advice/ktt18

8) NICE Key therapeutic topic 18: Multimorbidity and polypharmacy. January 2017 https://www.nice.org.uk/advice/ktt18

References related to Frailty

1) Fit for Frailty; British Geriatrics Society http://www.bgs.org.uk/index.php/fit-for-frailty
2) Fit for Frailty 2; British Geriatrics Society http://www.bgs.org.uk/home-1/campaigns/fit-for-frailty2/fff2-campaign/fff-frailty-2-download
3) The frailty syndrome. Clegg A; Young J. Clinical Medicine 2011, Vol 11, No 1: 72–5. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.932.7172&rep=rep1&type=pdf
4) Managing frailty as a long-term condition. Harrison JK et al. Age Ageing (2015) 44 (5): 732-735 https://academic.oup.com/ageing/article-lookup/doi/10.1093/ageing/afv085
5) Development and validation of an electronic frailty index using routine primary care electronic health record data. Clegg A et al. Age Ageing (2016) 45 (3): 353-360 https://academic.oup.com/ageing/article/45/3/353/1739750/Development-and-validation-of-an-electronic
6) Use of a frailty index to identify potentially inappropriate prescribing and adverse drug reaction risks in older patients. Cullinan et al. Age Ageing (2016) 45 (1): 115-120 https://academic.oup.com/ageing/article/45/1/115/2195329/Use-of-a-frailty-index-to-identify-potentially