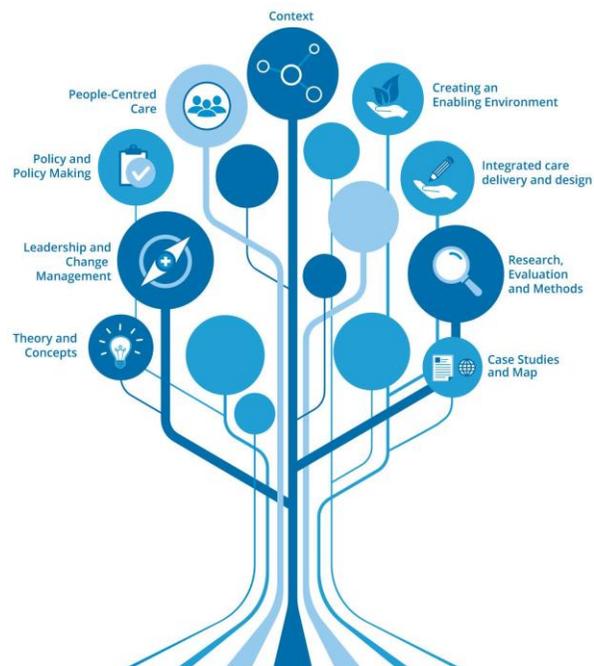


Integrated Care Matters

Appropriate Polypharmacy & Adherence

Knowledge Resource



About the information

The information provided in this document is intended to support the Integrated Care Matters webinar series.

Where possible, we select evidence that is published open access, and provided links to the materials referenced. Some are identified as author repository copies, manuscripts, or other copies, which means the author has made a version of the otherwise paywalled publication available to the public. Other referenced sources are pdfs and websites that are available publicly.

If you found this resource useful and would like to use the free [Evidence Search and Summary Service \(ESSS\)](#) to help you find and use evidence please get in touch to discuss your needs: esss@iriss.org.uk

Developed in partnership



Polypharmacy

Masnoon, N. et al. (2017). [What is polypharmacy?](#) BMC Geriatr 17, 230 (open access)

Systematic review conducted to identify and summarise polypharmacy definitions in existing literature.

Mortazavi, SS. et al. (2016). [Defining polypharmacy in the elderly.](#) BMJ Open 2016;6:e010989 (open access)

A systematic review to answer what definitions in the literature are being used for polypharmacy in older people, and which definitions are more comprehensive and applicable?

Appropriate Polypharmacy

Cadogan, CA. et al. (2016). [Development of an intervention to improve appropriate polypharmacy in older people in primary care using a theory-based method.](#) BMC Health Serv Res 16, 661 (open access)

Part of a multiphase research project aiming to develop an intervention to improve appropriate polypharmacy in older people in primary care.

Cadogan, CA. et al. (2016). [Appropriate Polypharmacy and Medicine Safety: When Many is not Too Many.](#) Drug Saf (2016) 39:109–116 (pdf)

Outlines current perspectives on polypharmacy and makes the case for adopting the term 'appropriate polypharmacy' in differentiating between the prescribing of 'many' and 'too many' drugs.

Cadogan, C.A. et al. (2017). [A feasibility study of a theory-based intervention to improve appropriate polypharmacy for older people in primary care.](#) Pilot Feasibility Stud 4, 23 (open access)

This study aimed to test the feasibility of the intervention and study procedures (recruitment, data collection).

Centre for Reviews and Dissemination, University of York (2017). [Effectiveness Matters: Reducing harm from polypharmacy in older people](#) (pdf)

A summary of reliable research evidence about the effects of important interventions for practitioners and decision makers in the NHS and public health.

Clyne, B. et al. (2016). [Potentially inappropriate or specifically appropriate? Qualitative evaluation of general practitioners views on prescribing, polypharmacy and potentially inappropriate prescribing in older people.](#) **BMC Fam Pract (2016) 17: 109 (open access)**

This paper aims to explore GP perspectives regarding prescribing and PIP in older primary care patients.

Cooper, JA (2015). [Interventions to improve the appropriate use of polypharmacy in older people: a Cochrane systematic review.](#) **BMJ Open 2015;5:e009235 (open access)**

Summary of an updated Cochrane review of interventions aimed at improving the appropriate use of polypharmacy in older people.

Fried, TR. and Mecca, MC. (2019). [Medication Appropriateness in Vulnerable Older Adults: Healthy Skepticism of Appropriate Polypharmacy.](#) **JAGS 67:1123–1127, 2019 (open access)**

Discussion around the concepts of inappropriate vs appropriate polypharmacy.

Gnjidic, D. et al. (2017). [Assessing medication burden and polypharmacy: finding the perfect measure.](#) **Expert Review of Clinical Pharmacology, 10:4, 345-347 (open access)**

Editorial discussing medication burden, polypharmacy definitions and studies.

Health Foundation (2018). [Innovating for Improvement - Safer Prescribing for Frailty: A Story of Polypharmacy Reduction in General Practice \(pdf\)](#)

Improvement project to help people with frailty get the best out of medicines, meeting their needs and reducing problematic polypharmacy.

Heaton, J. et al. (2016). [Person-centred medicines optimisation policy in England: an agenda for research on polypharmacy.](#) **Primary Health Care Research & Development, 18(1), 24-34**

Examining how patient perspectives and person-centred care values have been represented in documents on medicines optimisation policy in England.

Johansson, T. et al. (2016). [Impact of strategies to reduce polypharmacy on clinically relevant endpoints: a systematic review and meta-analysis](#). Br J Clin Pharmacol (2016) 82 532–54 (open access)

Study aiming to explore the impact of strategies to reduce polypharmacy on mortality, hospitalization and change in number of drugs.

Kaufmann, G. (2018). [Polypharmacy in older people: The need for deprescribing](#). Practice Nursing 2018 29:8, 390-396 (open access)

The role of practice nurses in supporting older people with long-term conditions who may benefit from deprescribing.

King's Fund (2013). [Polypharmacy and medicines optimisation: Making it safe and sound](#) (pdf)

This report defines the terms 'appropriate' and 'problematic' polypharmacy, explores polypharmacy in primary and secondary care and care homes, and systems for managing it.

Mair, A. et al. (2017). [Polypharmacy Management by 2030: a patient safety challenge](#). Simpathy (pdf)

This report calls for EU countries to work together in a focused way to manage and prevent inappropriate polypharmacy, and improve medicines adherence, through the use of a change management approach that is coordinated and collaborative in order to deliver better patient outcomes.

McIntosh, J. et al. (2018). [A case study of polypharmacy management in nine European countries: Implications for change management and implementation](#). PLoSONE13(4):e0195232 (open access)

This study looks at existing polypharmacy management in the EU, and how and why programs were developed, implemented and sustained.

Molokhia, M. and Majeed, A. (2017). [Current and future perspectives on the management of polypharmacy](#). BMC Family Practice volume 18, Article number: 70 (open access)

Looks at the impact on patients with polypharmacy of new interventions such as technology-based solutions and the use of different professional groups to improve the evidence-base.

NICE (2019). [Multimorbidity and polypharmacy \(website\)](#)

This document summarises the evidence base on multimorbidity and polypharmacy in support of medicines optimisation.

Payne, R. and Duerden, M. (2015). [Polypharmacy – appropriate, problematic or both?](#) *Prescriber*, 26: 31-34 (pdf)

Explores the difference between appropriate and problematic polypharmacy and illustrates how the two states can co-exist.

[Polypharmacy: a framework for theory and practice.](#) *The Pharmaceutical Journal*, November 2019, Vol 303, No 7931, online (paywall)

CPD article covering appropriate and problematic polypharmacy and tools pharmacists can use when assessing a patient's medicines.

[Polypharmacy: putting the framework into practice.](#) *The Pharmaceutical Journal*, December 2019, Vol 303, No 7932, online (paywall)

CPD article describes how to apply the polypharmacy framework at individual patient level through the use of a case study.

Prescriber (2019). [The polypharmacy programme in Scotland: realistic prescribing \(website\)](#)

Explains the latest update to the NHS Scotland polypharmacy guidance, placing greater emphasis on what matters to the patient.

Rankin, A. (2018). [Interventions to improve the appropriate use of polypharmacy for older people.](#) *Cochrane Database of Systematic Reviews 2018, Issue 9.* Art. No.: CD008165 (open access)

Cochrane Review looks at which interventions, alone or in combination, are effective in improving the appropriate use of polypharmacy and reducing medication-related problems in older people.

Royal Pharmaceutical Society (2019). [Polypharmacy: Getting our medicines right \(website\)](#)

Guidance setting out the current scale of polypharmacy, with an emphasis on problematic polypharmacy, outlines best practice in management for pharmacists, other healthcare professionals and patients themselves.

SIMPATY Consortium (2017). [Polypharmacy Management by 2030: a patient safety challenge](#) (pdf)

Sets out the case for prioritising how to address inappropriate medication use over the next decade, and to ensure the quality, economic and political systems are put in place to improve medication safety for patients.

Scottish Government Polypharmacy Model of Care Group (2018). [Polypharmacy Guidance, Realistic Prescribing](#) (pdf)

Guidance on preventing inappropriate polypharmacy at every stage of the patient journey.

Soler, O. and Barreto, JOM. (2019). [Community-Level Pharmaceutical Interventions to Reduce the Risks of Polypharmacy in the Elderly: Overview of Systematic Reviews and Economic Evaluations](#). *Front. Pharmacol.* 10:302 (open access)

Summary of evidence on the effectiveness of community-level pharmaceutical interventions to reduce the risks associated with polypharmacy in the population over 65 years of age.

Stewart, D. et al. (2017). [A modified Delphi study to determine the level of consensus across the European Union on the structures, processes and desired outcomes of the management of polypharmacy in older people](#). *PLoS ONE* 12(11):e0188348 (open access)

Study to determine the levels of consensus amongst key stakeholders in the European Union in relation to aspects of the management of polypharmacy in older people.

Stewart, D. et al. (2016). [Guidance to manage inappropriate polypharmacy in older people: systematic review and future developments](#). *Expert Opinion on Drug Safety* 16(2) November 2016 (pdf)

Overview of the pan-European 'SIMPATY' initiative, including a systematic review of the literature aiming to summarize and review critically current policies and guidelines on polypharmacy management in older people. The policy driven, evidence-based approach to managing inappropriate polypharmacy in Scotland is examined.

Stewart, D. et al. (2018). [Scottish School of Primary Care - Polypharmacy Briefing Paper 13](#) (pdf)

Describes measures and improvement methods being implemented in the real-world in Scottish general practice.

WHO (2019). [Medication Safety in Polypharmacy - Technical Report \(pdf\)](#)

Introduces polypharmacy as a concept and examines some approaches for the appropriate management of polypharmacy.

Adherence

Garder, E. (2018). [Drug adherence and symptom management in older people](#). *British Journal of Community Nursing* Vol. 23, No. 11 (open access)

Case study aiming to increase awareness of poor adherence to medication in the older adult population.

Giardini, A. et al. (2016). [Toward appropriate criteria in medication adherence assessment in older persons](#). *Aging Clin Exp Res* 28, 371–381 (open access)

Position Paper describing the advantages and disadvantages of known medication adherence tools (such as self-report, pill count, monitoring systems and devices, pharmacy refill and pharmacy claims databases) in providing criteria to assess medication adherence in older persons.

Patton, DE. et al. (2016). [Theory-Based Interventions to Improve Medication Adherence in Older Adults Prescribed Polypharmacy](#). *Drugs Aging* (2017) 34: 97 (open access)

Systematic review on the effectiveness of theory-based interventions aimed at improving medication adherence in older adults prescribed polypharmacy and to explore the extent to which psychological theory informed their development.

Patton, DE. et al. (2018). [Improving adherence to multiple medications in older people in primary care: Selecting intervention components to address patient-reported barriers and facilitators](#). *Health Expect.* 2018; 21: 138– 148 (open access)

This study aimed to (i) identify determinants of adherence to multiple medications from older people's perspectives; (ii) identify key domains to target for behaviour change; (iii) map key domains to intervention components that could be delivered in an intervention by community pharmacists.

Saljoughian, M. (2019). [Polypharmacy and Drug Adherence in Elderly Patients](#). *US Pharm.* 2019;44(7):33-36 (open access)

Identifies the prevalence and types of medications taken by older adults with polypharmacy and drug-adherence issues, and discusses the epidemiology of adverse health reactions resulting from polypharmacy and how medication use can be improved.

Ulley, J. et al. (2019). [Deprescribing interventions and their impact on medication adherence in community-dwelling older adults with polypharmacy](#). *BMC Geriatr* 19, 15 (open access)

Systematic review examining the evidence of deprescribing as an effective strategy for improving medication adherence amongst older, community dwelling adults.

Zelko, E. et al. (2016). [Medication Adherence In Elderly With Polypharmacy Living At Home](#). *Mater Sociomed.* 2016;28(2):129–132 (open access)

Systematic review of the available evidence to evaluate drug adherence in the elderly with polypharmacy living at home.

Medications Review

Cantlay, A. et al. (2016). [Polypharmacy in the elderly](#). *InnovAiT*, 9(2), 69–77 (open access)

This article aims to help GPs manage patients on multiple medications, be aware of potential problems this may cause, and give guidance on medication reviews.

[MedBridge study \(website\)](#)

Medication Reviews Bridging Healthcare (MedBridge) is a clinical study that aims to study the effects of hospital-initiated comprehensive medication reviews, including active follow-up, on elderly patients' healthcare utilisation.

[NHS Scotland Polypharmacy Guidance - Medicines Review \(website\)](#)

Mobile app and website to support healthcare professionals, patients and carers make shared decisions about medicines, based on the Scottish Government's Polypharmacy Guidance: Realistic Prescribing.

NHS Specialist Pharmacy Service (2015). [A patient centred approach to polypharmacy](#) (pdf)

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.

Wilkinson, E (2019). [Failing the frailest](#). The Pharmaceutical Journal (website)

A new analysis suggests that thousands of vulnerable older people could be at risk because their medicines have not been reviewed by their GP.

Further Reading

[SIMPATY project](#) (website)

The Stimulating Innovative Management of Polypharmacy and Adherence in The Elderly (SIMPATY) project aims to provide targeted resources for tackling polypharmacy and adherence.

IFIC Special Interest Group. [Appropriate Polypharmacy and Adherence in Integrated care](#) (website)

The groups aim is to facilitate collaboration across disciplines and across countries to enhance our understanding, adoption and evaluation of addressing appropriate polypharmacy as a key component of pathway for people centred integrated care.

WHO. [Medication Without Harm](#) (website)

The third WHO Global Patient Safety Challenge aims to reduce severe avoidable medication-related harm by 50%, globally in the next 5 years.

This [video](#) is part of WHO's campaign to reduce medication-related harm by improving practices and reducing medication errors (YouTube)
