

## HRB Centre for Primary Care Research Research Briefs

# Core outcome sets for polypharmacy and multimorbidity research



Living with multiple medical conditions (multimorbidity) and the use of multiple medicines (polypharmacy), is commonplace, especially among older adults. In order to determine the effectiveness of interventions in these areas, the measurement of appropriate outcomes is essential. These outcomes can be used to compare results between trials and form the basis of systematic reviews. Difficulties arise when trials examining similar interventions use different outcomes. One approach to overcoming this is the development and implementation of 'Core Outcome Sets' (COSs), defined as the minimum set of outcomes to be measured in all trials conducted in a particular area of health.

Two recent studies from the Health Research Board (HRB) Centre for Primary Care Research ([www.hrbcentreprimarycare.ie](http://www.hrbcentreprimarycare.ie)) have developed core outcome sets for trials aimed at improving the appropriateness of polypharmacy in older people in primary care and in intervention studies for multimorbidity.

### We can be found at:

HRB Centre for Primary Care Research  
Department of General Practice  
Royal College of Surgeons in Ireland  
123 St. Stephen's Green  
Dublin 2, Ireland

Tel: +353-1-4022473

Email: [enquiries.cpcr@rcsi.ie](mailto:enquiries.cpcr@rcsi.ie)

[www.hrbcentreprimarycare.ie](http://www.hrbcentreprimarycare.ie)

 HRB CENTRE FOR  
PRIMARY CARE RESEARCH



**RCSI**



**QUEEN'S  
UNIVERSITY  
BELFAST**

**HR<sup>B</sup>** Health  
Research  
Board



**NUI Galway  
OÉ Gaillimh**

123 St Stephen's Dublin 2, Ireland

## Core outcome sets for polypharmacy and multimorbidity research



The first of these two studies, published in the Journal of the American Geriatrics Society and led by Dr Audrey Rankin (Queen's University Belfast), developed a core outcome set for use in trials aimed at improving the appropriateness of polypharmacy in older people in primary care. Potential outcomes were identified from an updated Cochrane systematic review and previously collected qualitative data. An international expert panel (n=120) and a public participant panel (n=40) were recruited for the three-round, Delphi consensus exercise. After three Delphi rounds, the final COS comprised 16 outcomes, with priority given to the seven highest ranking outcomes: 'serious adverse drug reactions', 'medication appropriateness', 'falls', 'medication regimen complexity', 'quality of life', 'mortality' and 'medication side-effects'.

The second study, published in the Annals of Family Medicine and led by Prof Susan Smith (RCSI), developed a core outcome set for studies in multimorbidity. A Delphi panel of purposively selected experts, with patient and public representation, completed a web-based survey with 2 rounds. Panellists (n=26) were presented with a range of outcomes that had been identified in previous workshops and a related Cochrane Systematic Review. The Delphi panel reached consensus on 17 outcomes for inclusion in a core outcome set for multimorbidity (COSmm). The highest-ranked outcomes were health-related quality of life, mental health outcomes, and mortality. Other outcomes were grouped into overarching themes of patient-reported impacts and behaviours, physical activity and function, and health systems.

Both of these studies recognise that having a large number of outcomes may be impractical and suggest focussing on the highest ranking outcomes respectively and that the remaining outcomes should be considered depending on the study specific interventions, aims and underlying theoretical frameworks.

Systematic reviews in the areas of polypharmacy and multimorbidity have highlighted the challenges of evidence synthesis due to differences between studies, including methodologic choice of outcomes. These studies have developed core outcome sets each with a unique scope, but collectively, their implementation will add rigour to effectiveness studies of pharmaceutical care. This will ultimately facilitate comparison and synthesis of outcome data across studies, helping to determine which interventions work and inform clinical decision-making and health policy.

### The articles can be viewed at:

[1] Rankin A, Cadogan CA, Ryan C, Clyne B, Smith SM, Hughes CM. Core Outcome Set for Trials Aimed at Improving the Appropriateness of Polypharmacy in Older People in Primary Care. *J Am Geriatr Soc.* 2018; 66(6): 1206-1212.

[www.ncbi.nlm.nih.gov/pubmed/29461621](http://www.ncbi.nlm.nih.gov/pubmed/29461621)

[2] Smith SM, Wallace E, Salisbury C, Sasseville M, Bayliss E, Fortin M.A Core Outcome Set for Multimorbidity Research (COSmm). *Ann Fam Med.* 2018; 16(2): 132-138.

[www.ncbi.nlm.nih.gov/pubmed/29531104](http://www.ncbi.nlm.nih.gov/pubmed/29531104)