Technoleg Iechyd Cymru
Health Technology Wales

Topic Exploration Report

Topic explorations are designed to provide a high-level briefing on new topics submitted for consideration by Health Technology Wales. The main objectives of this report are to:

- Determine the quantity of evidence available for a technology of interest.
- Identify any gaps in the evidence.
- Inform decisions on topics that warrant fuller assessment by Health Technology Wales (HTW).

Topic exploration report number:	TER360
Topic:	Co-ordinated treatment or management plans for people with multi-morbidities.
Summary of findings:	Co-ordinated treatment or management plans for people with multimorbidity aim to ensure that a holistic approach is taken to their care that takes account of all present health conditions. HTW Researchers searched for evidence on the effectiveness of treatment or management plans for people with multimorbidity. We identified a large body of research that assessed the use of co-ordinated treatment or management plans in people with multimorbidity. Several evidence reviews were found studying a wide range of interventions (changes to care coordination or organisation of care delivery) that could encompass treatment or management plans, although none focussed specifically on the effectiveness of this intervention. These reviews reported mixed results on the effectiveness of the range of interventions studied, and in some cases suggested that effectiveness may vary according to the type of people receiving care. Two reviews also reported enablers and barriers to various aspects of managing multimorbidity, from the perspective of staff or patients. We also searched for individual trials that may cover more specific interventions. We identified one recent randomised controlled trial using flexible patient-centred interventions to create a care plan for people with multimorbidity. Overall there was no significant difference in outcomes (patient education, empowerment, and agency) between the intervention and usual care. Based on the evidence identified, it is not possible to draw any firm conclusions about the effectiveness of this intervention in the care and management of people with multimorbidity due to the broad range of interventions that could be considered. Further research on specific populations or settings could identify areas where they could be of most value.

Introduction and aims

Definitions of multimorbidity vary, but it is most simply defined as the presence of 2 or more (usually long term) health conditions. People may present with the conditions simultaneously or they may have a pre-existing condition prior to a new health problem. In such scenarios, there is a risk of focusing on the health condition deemed to be most severe while potentially neglecting the other condition(s). Co-ordinated treatment or management plans for people with multimorbidity aim to ensure that a holistic approach is taken to their care that takes account of all present health conditions.

Health Technology Wales researchers searched for evidence on the effectiveness of co-ordinated treatment or management plans for people with multimorbidity. We also included evidence on the views of people with multimorbidity, or people involved in their care, on the use of these type of interventions.

Evidence overview

We identified one evidence-based guideline on the assessment and management of multimorbidity and six evidence reviews studying the management of multimorbidity. Of the evidence reviews, four reported quantitative evidence on the effectiveness of a range of interventions and two reported qualitative evidence on the views and experiences of patients or GPs in managing multimorbidity.

These sources did not focus specifically on the effectiveness of co-ordinated treatment and management plans, but studied a broader range of interventions that could include these, either alone or as part of a broader package of interventions. Interventions studied in the reviews included changes to care coordination or organisation of care delivery (e.g. by enhanced multidisciplinary team work), and patient-focussed interventions such as educational or self-management support interventions. Most of the reviews focussed on specific groups of people with multimorbidity (older people, people with high care utilisation) or specific care settings (primary or community care). Because these reviews were only partially relevant to the review question, we also searched for individual studies that studied use of care plans specifically.

Guidelines and guidance

NICE Guideline NG56 Multimorbidity: clinical assessment and management covers optimising care for adults with multimorbidity. The guideline does not make any recommendations about specific interventions to improve care for people with multimorbidity. The guideline included an evidence review to answer the review question: What models of care improve outcomes in people with multimorbidity? This included care plans as one of the interventions studied. The evidence review found 20 randomised controlled trials (8832 participants in total). Those which studied care plans typically included these as part of a wider package of interventions, making it difficult to assess the effectiveness of care plans specifically. For the whole range of interventions studied, the guideline authors concluded that the evidence demonstrated limited clinical benefit in critical outcomes compared to usual care. This review carried out in 2016 and it is unclear whether it reflects the most up to date evidence.

Evidence reviews (quantitative)

Smith (2021) conducted a systematic review to determine the effectiveness of health-service or patient-oriented interventions designed to improve outcomes in people with multimorbidity in primary care and community settings. They identified 17 randomised controlled trials examining a

range of complex interventions for people with multimorbidity. Nine studies focused on defined comorbid conditions with an emphasis on depression, diabetes and cardiovascular disease. The remaining studies focused on multimorbidity, generally in older people. In 11 studies, the predominant intervention element was a change to the organisation of care delivery, usually through case management or enhanced multidisciplinary team work. In six studies, the interventions were predominantly patient-oriented, for example, educational or self-management support-type interventions. The authors reported that overall, there was little or no difference found in clinical outcomes. Mental health outcomes did improve, with modest reductions in mean depression scores for the comorbidity studies that targeted participants with depression. There was probably a small improvement in patient-reported outcomes. The authors concluded that health-service or patient-oriented interventions may make little or no difference to health service use, may slightly improve medication adherence, probably slightly improves patient-related health behaviours, and probably improves provider behaviour in terms of prescribing behaviour and quality of care.

Lee et al (2020) conducted a systematic review to assess the types of healthcare intervention programs offered to patients with multimorbidity and their effects on key psychosocial factors. The authors identified six randomized controlled trials of 1446 subjects. The results showed that healthcare interventions had a positive effect on self-rated health, reducing anxiety and depression, and improving self-efficacy for patients with multimorbidity. However, there was no significant effect on quality of life.

Butterworth et al (2020) conducted a systematic review to assess the effects of interventions aimed at involving older people with multimorbidity in decision-making about their healthcare during primary care consultations. Three studies were included, involving 1879 patient participants. Interventions utilised behaviour change theory; cognitive-behavioural therapy and motivational interviewing; multidisciplinary, holistic patient review and organisational changes. No studies reported the review authors' primary outcome of interest, which was 'patient involvement in decision-making about their healthcare'. Patient involvement was evident in the theory underpinning interventions. The authors concluded that there is a notable gap between clinical guidelines for multimorbidity and an evidence base for implementation of their recommendations during primary care consultations with older people.

Baker et al (2018) conducted a systematic review of care management interventions targeting the following three patient groups: adults with two or more chronic medical conditions, adults with at least one chronic medical condition and concurrent depression, and adults identified based solely on high past or predicted healthcare utilization. Eligible studies were randomised controlled trials that tested a comprehensive, care management intervention. The authors identified 15 studies, two focused on patients with two or more chronic medical conditions, seven on patients with at least one chronic medical condition and depression, and six on patients with high past or predicted healthcare utilization. The seven studies targeting patients with at least one chronic medical condition and depression demonstrated significant improvement in depression symptoms. Of the six studies that focused on high utilizers, two showed small reductions in utilization. The authors concluded that interventions were more likely to be successful when patients were selected based on having at least one chronic medical condition and concurrent depression, and when patient-reported outcomes were assessed.

Evidence reviews (qualitative)

Boye et al (2019) conducted a systematic review with the aim of synthesising how older people with multimorbidity experience integration of health care services and to identify barriers towards

continuity of care in people with multimorbidity. Nine relevant articles were found and the following themes identified. Integration of health care services was seen as successful when the patients felt listened to on all the aspects of being individuals with multimorbidity and when they obtained help from a care coordinator to prioritize their appointments. However, they felt frustrated when they did not have easy access to their health providers, when they were not listened to, and when they felt they were discharged too early. These frustrations were also identified as barriers to continuity of care.

A second review of qualitative evidence by Damarell et al (2020) aimed to understand if and how multimorbidity impacts on the work of GPs, the strategies they employ to manage challenges, and what they believe still needs addressing to ensure quality patient care. Thirty-three studies from fourteen countries were included. Three major challenges were identified: practising without supportive evidence; working within a fragmented health care system whose policies and structures remain organised around single condition care and specialisation; and the clinical uncertainty associated with multimorbidity complexity and general practitioner perceptions of decisional risk. GPs revealed three approaches to mitigating these challenges: prioritising patient-centredness and relational continuity; relying on knowledge of patient preferences and unique circumstances to individualise care; and structuring the consultation to create a sense of time and minimise patient risk.

Individual studies

Because none of the reviews found focussed specifically on co-ordinated treatment or management plans, we also searched for individual trials that studied this aspect of multimorbidity specifically. We identified one relevant and recent study (Stewart et al, 2021) of people with 3 or more chronic conditions, randomised to usual care or to a flexible patient-centred intervention: a nurse and patient planned a multi-provider case conference during which a care plan could be created. A total of 86 patients in the intervention group and 77 in the control group showed no differences. In a subgroup analysis, the intervention improved mental health status only in people in a subgroup with the highest household income. Qualitative analysis identified five themes: valuing the team, patients feeling supported, receiving a follow-up plan, being offered new and helpful additions to their treatment regimen, and experiencing positive outcomes.

Cost effectiveness evidence

We also searched for any evidence on the cost-effectiveness or economic impact of co-ordinated treatment or management plans for people with multi-morbid conditions, but did not identify any relevant evidence.

Areas of uncertainty

Evidence on interventions to improve care for people with multimorbidity is available from a number of reviews, most of which included randomised trials, but the coverage within these reviews was broad and specific interventions are difficult to define: many of the studies used a package of interventions, assessed together, rather than individual interventions. This makes it difficult to draw conclusions on the effectiveness of individual interventions, or on co-ordinated treatment or management plans specifically.

Multimorbidity has no clear universally accepted definition and can encompass a wide range of conditions. As noted above, this means the scope of the reviews identified is also broad in terms of

the included populations. Some review authors suggested that effectiveness may vary according to the type of people receiving care. It may therefore be possible to identify groups of people with multimorbidity for whom interventions to improve their care may offer most value, but this work is beyond the scope of this brief review.

Literature search results

Health technology assessments and guidance
National Institute for Health and Care Excellence. Multimorbidity: clinical assessment and management. NICE guideline [NG56]Published: 21 September 2016. https://www.nice.org.uk/guidance/ng56
Evidence reviews and economic evaluations
Smith SM, Wallace E, O'Dowd T, Fortin M. Interventions for improving outcomes in patients with multimorbidity in primary care and community settings. Cochrane Database Syst Rev. 2021 Jan 15;1(1):CD006560. https://doi.org/10.1002/14651858.cd006560.pub4 Boye LK, Mogensen CB, Mechlenborg T, Waldorff FB, Andersen PT. Older multimorbid patients' experiences on integration of services: a systematic review. BMC Health Serv Res. 2019 Nov 5;19(1):795. https://doi.org/10.1186/s12913-019-4644-6 Damarell RA, Morgan DD, Tieman JJ. General practitioner strategies for managing patients with multimorbidity: a systematic review and thematic synthesis of qualitative research. BMC Fam Pract. 2020 Jul 1;21(1):131. https://doi.org/10.1186/s12875-020-01197-8 Lee HJ, Lee M, Ha JH, Lee Y, Yun J. Effects of healthcare interventions on psychosocial factors of patients with multimorbidity: A systematic review and meta-analysis. Arch Gerontol Geriatr. 2020 Aug 25;91:104241. https://doi.org/10.1016/j.archger.2020.104241 Butterworth JE, Hays R, McDonagh STJ, Bower P, Pitchforth E, Richards SH, Campbell JL. Involving older people with multimorbidity in decision-making about their primary healthcare: A Cochrane systematic review of interventions (abridged). Patient Educ Couns. 2020 Oct;103(10):2078-2094. https://doi.org/10.1016/j.pec.2020.04.008 Baker JM, Grant RW, Gopalan A. A systematic review of care management interventions targeting multimorbidity and high care utilization. BMC Health Serv Res. 2018 Jan 30;18(1):65. https://doi.org/10.1186/s12913-018-2881-8
Individual studies
Stewart M, Fortin M, Brown JB, Ryan BL, Pariser P, Charles J, Pham TN, Boeckxstaens P, Reichert SM, Zou GY, Bhattacharya O, Katz A, Piccinini-Vallis H, Sampalli T, Wong ST, Zwarenstein M. Patient-centred innovation for multimorbidity care: a mixed-methods, randomised trial and qualitative study of the patients' experience. Br J Gen Pract. 2021 Mar 26;71(705):e320-e330. https://doi.org/10.3399/bjgp21x714293
Ongoing research
We did not identify any relevant ongoing primary research.

Date of search:	June 2022
Concepts used:	Multimorbidity; care plans, treatment and management plans, individualised care