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Brokering Innovation Through Evidence

3D study: Managing multimorbidity in primary care



Multimorbidity is when someone has more than one chronic health condition, such as asthma, diabetes or heart disease. One in four people in the UK and the USA have multimorbidity. In people over 65, this increases to two-thirds.

People with multimorbidity experience poor physical and mental health, and poor quality of life. Treatment for multimorbidity places another burden on patients, who may have to take many drugs, make lifestyle changes and attend numerous healthcare appointments.

Their care is often disease-focused, rather than patient-centred and tailored to their individual needs. This is a result of care

guidelines focused on standardising care for each disease, rather than on what an individual patient needs.

The 3D study was the largest ever trial of an intervention for people with multimorbidity, with 1,546 patients recruited. It was a randomised control trial, the best test of any medical intervention.

It evaluated a patient-centred intervention, the 3D approach, to improve how GP practices manage and care for patients with multimorbidity.

The approach encourages clinicians to think broadly about the different dimensions of health, simplify drug treatment and consider mental as well as physical health. It was designed to treat the whole person and overcome the disadvantages of treating individual conditions in isolation.

What is the 3D approach?

Patients are offered continuity of care with a named GP, with comprehensive reviews every six months. In the study, this replaced the usual care of separate reviews for each long-term condition.

A 3D review consists of two appointments, one with a nurse and then the GP. A pharmacist does a records-based medication review.

The appointment letter asks the patient to think about the health problems that bother them most. The nurse focuses on identifying the most important health problems to the patient. Findings are printed as a patient-held agenda to inform the subsequent consultation with the GP.

The pharmacist uses the patient's electronic medical records to review medication, and makes recommendations.

The GP considers the reviews, discusses with the patient whether they have been able to stick to their treatment, and together they agree on a health plan.

The patient is given a printed copy of the plan, which specifies how the patient and clinicians will address the agreed goals over the next six months through routine consultations.

All three stages of the 3D review are based on an electronic template integrated within the EMIS electronic medical records system.

Size and scope of the study

Patients from 33 primary care practices in Bristol, Greater Manchester and Ayrshire in Scotland took part in the study. Roughly half of the practices offered the 3D intervention (to 797 patients) and the other half offered usual care (to 749 patients).



What were the findings?

By making health reviews more patient-centred, patients felt that they had experienced higher quality care.

However, patients' health-related quality of life, which included measures of mobility, self-care, pain and discomfort, and anxiety and depression, did not improve.

The findings provide the best evidence to date of the effectiveness of a person-centred approach for multimorbidity, for which there is international consensus but little evidence.

They also challenge the thinking on which UK and international guidelines are based.

Read the full paper

Management of multimorbidity using a patient-centred care model: a pragmatic cluster-randomised trial of the 3D approach

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