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FOCUS ON RESEARCH

Living Well with Multimorbidity: The development and evaluation of a primary care-based complex intervention to support patients with multiple morbidities

Researchers
Stewart Mercer, Bruce Guthrie, Sally Wyke, Graham Watt, Elisabeth Fenwick, Alex McConnachie

Aim
The overall aim was to develop and evaluate a primary care-led whole-system intervention to help patients with multiple long-term conditions (multimorbidity).
Our research objectives were:

1. To describe multipmorbidity in Scotland to help identify the target group for the intervention more precisely;
2. To develop a 'whole system' intervention (CARE Plus) that acts at system, and professional-patient levels to help support patients with multimorbidity in deprived areas. The objective is to improve health-related quality of life and well-being;
3. To carry out an exploratory randomised controlled trial (RCT) to assess the feasibility and likely cost-effectiveness of the CARE Plus intervention.

Project Outline/Methodology
The programme consisted of five inter-linked *workstream:*

- *Workstream 1 - Target population and prevalence study (objective 1)*
- *Workstream 2 – Developing the complex intervention (objective 2)*
- *Workstream 3 - Optimisation of the intervention (Objective 2)*
- *Workstream 4 – Economic evaluation (objectives 2,3)*
- *Workstream 5 – exploratory trial of whole-system intervention (Objective 3)*

Key Results
The extent of multimorbidity in Scotland was analysed in a nationally representative primary care dataset of almost 1.8 million patients. Multimorbidity was more common and occurred 10-15 years earlier in patients living in the most deprived areas compared with affluent areas. Qualitative interviews found that multimorbid patients in deprived areas face numerous challenges in managing their conditions, and struggle with the 'work' of everyday life. GPs and nurses also described an 'endless struggle' in trying to help such patients due to time constraints and their own stress. The 'whole-system' intervention was co-developed with patients from deprived areas, voluntary organisations, GPs, and nurses and tested before being delivered in a 'cluster' RCT of 8 general practices in very deprived areas (4 CARE Plus, 4 'controls' providing usual care). 156 multimorbid patients (76 in each group) aged 30-65 years took part. The intervention involved longer consultations with GPs or practice nurses using an empathic, patient-centred approach, based on patients' own priorities and goals, with additional self-management support. GPs and nurses received training and support (3 half day meetings). Outcomes were measured at 6 and 12 months. The key finding was that it was feasible to carry out such a trial, with almost 90% of patients in both groups remaining in the study at 12 months. There was some evidence of better quality of life and well-being in the CARE Plus group compared with the control group. Economic analysis indicated the intervention was likely to be cost-effective, and warranted a larger definitive trial.

Conclusions
A complex whole-system intervention in primary care for patients with multimorbidity in deprived areas has been co-produced and tested. The cluster RCT shows feasibility and likely benefit.

What does this study add to the field?
This is the first study in the world of its kind.

Implications for Practice or Policy
Enabling practices in deprived areas to provide longer and more patient-centred care for multimorbid patients may improve outcomes and be cost-effective.

Where to next?
Funding will be sought from a major research funder such as NIHR for a large, definitive trial.

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Living Well with Multimorbidity: the epidemiology of multimorbidity in Scotland

Researchers
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Aim
The aim of the study was to determine how common multimorbidity is in Scotland, and the effects of age, gender, and socioeconomic status. This is to help inform the programme of research and the choice of target group for the planned complex intervention.

Project Outline/Methodology
Nationally representative cross-sectional database study of 40 morbidities in 1,751,841 people registered with 314 General Practices in Scotland. Multimorbidity was defined as the presence of two or more conditions.

Key Results
Almost 1 in 4 patients (23%) were multimorbid. For all 40 conditions examined, patients with a single condition only were in the minority. Multimorbidity was slightly more common in women (26%) than in men (20%). Although the prevalence of multimorbidity increased markedly with age, the absolute number of people with multimorbidity was higher in the under-65s than in those aged 65 and over. Multimorbidity occurred 10-15 years earlier in the most deprived areas compared with the most affluent, and deprivation was particularly associated with multimorbidity that included physical and mental health problems. The presence of mental health problems increased as the number of physical morbidities increased, and was considerably greater in more deprived people. Almost half (47%) of patients with 5 or more physical conditions living in the most deprived areas had an associated diagnosed mental health problem.

Conclusions
Half of all people with long-term morbidities have multimorbidity, and it is strongly associated with both age and socioeconomic deprivation. Multimorbidity combining physical and mental health problems is particularly prevalent in deprived areas.

What does this study add to the field?
This study is the first in the world to show the effect of deprivation on multmorbidity in a large nationally representative sample. Publication of the findings in the Lancet in 2012 resulted in it being voted the Best paper of the Year by the Royal College of General Practice in 2013.

Implications for Practice or Policy
The findings challenge the single-disease paradigm in which most healthcare, medical research and medical education is currently configured. A complementary strategy is needed, supporting generalist clinicians to provide personalised, comprehensive continuity of care.

Where to next?
The study helped to define the target population for the CARE Plus trial, which was developed in the research programme, and targeted multimorbid patients living in very deprived areas age 30-65 years.

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FOCUS ON RESEARCH

Living Well with Multimorbidity: The CARE Plus Study- an exploratory cluster randomised controlled trial of a primary care-based complex intervention for patients with multimorbidity living in areas of high deprivation

Researchers
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Aim
To carry out an exploratory randomised controlled trial (RCT) to assess the feasibility and likely cost-effectiveness of the CARE Plus intervention.

Project Outline/Methodology
The 'whole-system' complex intervention was co-developed with experts in the field, patients from deprived areas, voluntary organisations (through the Alliance for Health and Social Care), and GPs, and nurses working in deprived areas, tested and 'optimised' before being delivered in a 'cluster' RCT of 8 general practices in very deprived areas of Glasgow (4 CARE Plus, 4 'controls' providing usual care). The trial had ethical approval and was registered.

225 patients with multimorbidity aged 30-65 years were identified and approached and 152 (68%) patients (76 in each group) agreed to take part. The intervention involved longer consultations with GPs or practice nurses (on average 35 minutes for first consultation) using an empathic, patient-centred approach, based on patients' own priorities and goals, with additional self-management support materials for the patients. GPs and nurses received training and support (3 half day meetings over the 12 months). Outcomes were measured at baseline, 6 and 12 months. The primary outcomes were health-related quality of life and well-being, assessed by validated patient-completed questionnaires. A battery of secondary outcome measures were also collected as was the use of health services and prescribed medications in the 12 months before and during the trial in order to perform an economic analysis.

Key Results
The average age of the patients in the trial was 52 years, and the average number of long-term conditions per patient was five. Two-thirds (66%) reported current or previous depression and/or anxiety. The key finding was that it was feasible to carry out such a trial, with 90% of patients remaining in the study at 6 months (91% in the CARE Plus Group and 89% in the control group) and 88% (in both groups) at 12 months. There was evidence of better quality of life in the CARE Plus group compared with the control group at 12 months. There was also evidence of improvement in one aspect of well-being (a reduction in negative wellbeing) but not overall wellbeing. Economic analysis found that although the CARE Plus group was more expensive, the level of benefit in terms of quality of life indicated the intervention was likely to be cost-effective, at the level set by the UK government.

Conclusions
A primary-care based complex intervention for patients with multimorbidity living in deprved areas has been developed and tested in an exploratory RCT, and found to be feasible with preliminary evidence of cost-effectiveness.

What does this study add to the field?
This is the first study in the world to develop and test a complex 'whole-system' intervention in primary care that involves longer consultations and a patient-centred approach for patients with multimorbidity living in areas of severe deprivation.

Implications for Practice or Policy
The study suggests that targeting multimorbid patients in deprived areas for longer consultations in primary care with additional support may improve outcomes and be cost-effective. Ways of embedding such an approach within the NHS needs to be explored in everyday practice.

Where to next?
The CARE Plus study has proven feasibility but needs to be tested in a larger definitive RCT. Funding will be sought from a major funder such as NIHR to do this.

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FOCUS ON RESEARCH

The Development, Refinement and Optimisation of the CARE Plus Intervention

Researchers
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Aim
The aim of the study was to develop, refine and optimise an evidence-based complex intervention. This was aimed at GP care for patients living with multiple morbidity in deprived areas.

Project Outline/Methodology
Following the Medical Research Council (MRC) Framework for complex interventions (Craig et al 2008), the CARE Plus intervention was developed and refined (based on qualitative research findings from 34 individual interview; 16 GPs, 4 Practice Nurses and 14 patients and from 6 focus group discussion; 2 with GPs, 1 with Practice Nurses, 2 with patients, and 1 with patient representative) then optimised (based on patient quantitative questionnaire feedback and qualitative research findings from group discussion with 11 GPs and 2 Practice Nurses, and from interviews with 6 patients) in a scoping study of its implementation and delivery in 2 general medical practices.

Key Results
The findings of developmental phase of the study confirmed that the proposed intervention required a 'whole system' and a 'whole-person approach', which affected changes at 3 levels:
- system (e.g. through the provision of longer consultations that facilitated continuity of care, a whole person-centred approach to care, and shared, realistic goal setting)
- professionals (e.g. through the provision of peer support and training meetings), and
- patients e.g. through support for self-management such as guiding and encouraging use of self-help materials and existing community resources).

The essential structure of the practitioner/patient consultations to be utilised in such an approach were defined as comprising 4 key elements: (1) establishing and maintaining relationships with patients (Connect); (2) focusing on the 'whole person' in assessing health problems in terms of their individual personal and social contexts (Assess); (3) responding in an empathic and validating way to problems (Respond); and empowering patients by helping them achieve realistic goals and improve self-management (Empower).

The findings of optimisation and refinement phases of the study confirmed that the core elements of the CARE Plus intervention were important and valued by both practitioners and patients. However, they indicated the need for some refinement. Changes were made at all three levels i.e. system, (whereby the longer consultation time could be used flexibly by practice with a simplified version of the CARE Plan); practitioner (whereby training and support meetings incorporated Mindfulness techniques; and patient (whereby support materials were stream-lined and included both written and audio materials).

Conclusions
A complex whole-system intervention in primary care for patients with multimorbidity has been co-produced and can now be tested in a feasability Randomised Cotrolled Trial.

What does this study add to the field?
This study adds to the paucity of research evidence on interventions for managing multiple morbidity, particualrly in general medical practice.

Implications for Practice or Policy
The findings suggest that the CARE Plus approach improves the management of patients with multiple morbidity and benefits both practitioners and patients.

Where to next?
The study produced the CARE Plus intervention to be used in a feasibility Randomised Controlled Trial targeting patients living in very deprived areas.

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