ACRC
Advanced Care Research Centre

Multimorbidity

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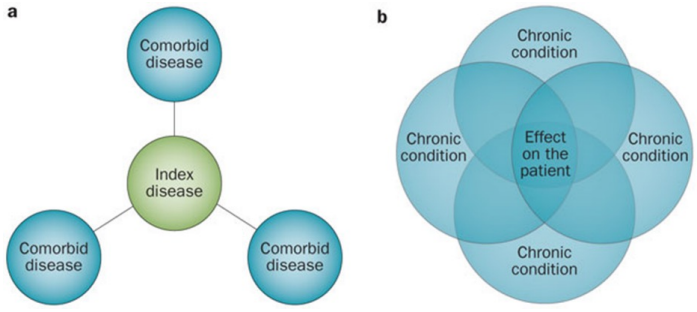
ACRC briefing paper 3

What is the problem?

The NICE Guidelines on Multimorbidity[1] defines multimorbidity as two or more long-term health conditions within an individual. These can include:

- Physical and mental health conditions
- Ongoing conditions such as learning disability
- Symptom complexes such as frailty or chronic pain
- Sensory impairment such as sight or hearing loss
- Alcohol and substance misuse

Multimorbidity should not be confused with comorbidity, which is when a patients with an index condition has other conditions as well. The concept of multimorbidity fits well with primary care, where the aim is to treat the person as a whole. Over time, different conditions may wax and wane in severity, and thus multimorbidity is appropriate as it does not label any one condition as being of central importance. In specialist settings in secondary care, patients may consult a specialist for a specific condition, such as diabetes. In this case, the diabetologist would consider diabetes as the patients' index condition and any other conditions as comorbidities. The diagram below illustrates the difference between comorbidity and multimorbidity:



Multimorbidity (and comorbidity) brings many challenges to the individual, carers and the health and social care system. Multimorbidity:

- Increases mortality rate
- Increases hospital admissions
- Increases use of primary care
- Increases use of secondary care
- Increases use of social care
- Increases treatment burden
- Decreases quality of life
- Reduces functional ability
- Has societal effects – work, family roles, etc.
- Predisposes to frailty

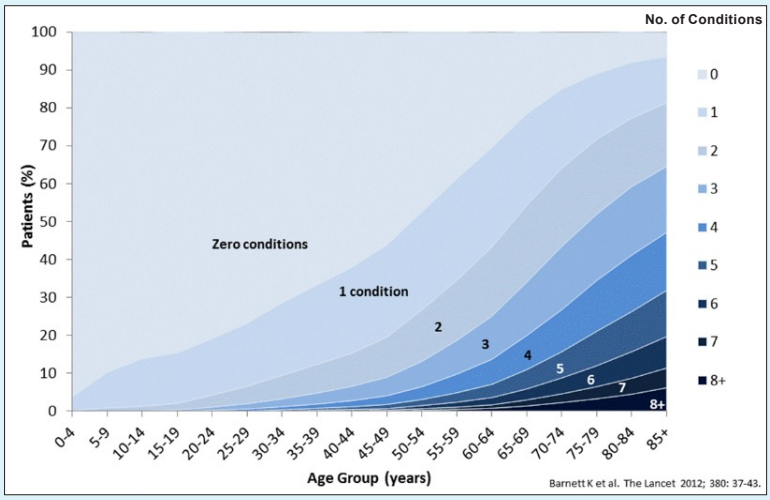
Multimorbidity is widely regarded as a key global challenge as it is rising in prevalence and already accounts for a large percentage of health and social care expenditure.[2]

Key points

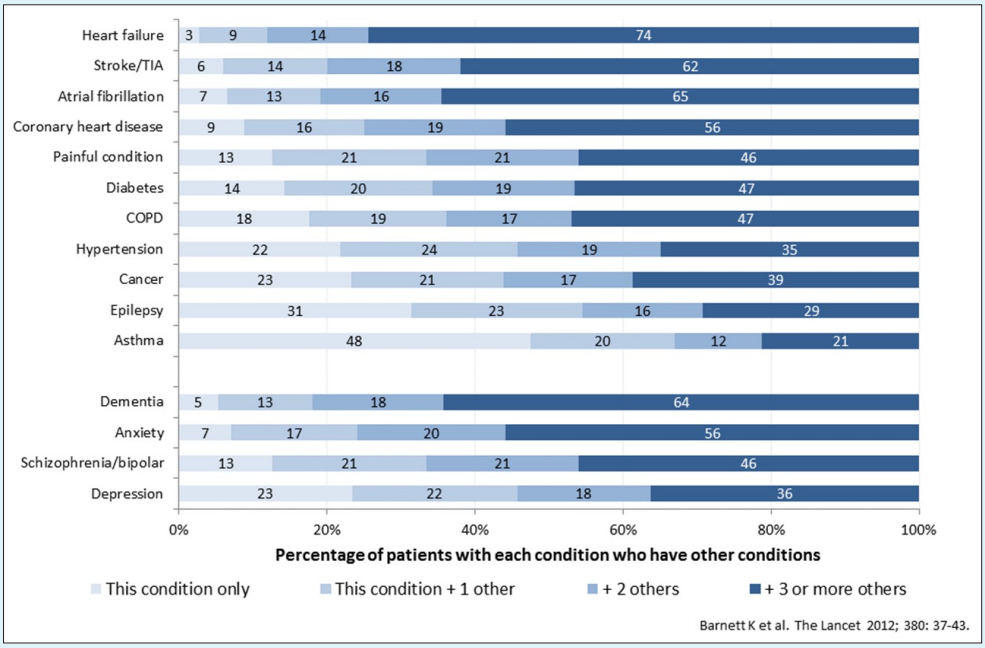
- Multimorbidity is the coexistence of two or more long-term conditions (including mental and physical) within an individual.
- Multimorbidity is now the norm, not the exception, in people in later life.
- It is socially patterned, being more common and occurring at a younger age in people of low socioeconomic position, and thus contributes to health inequalities.
- It is 'high-burden, high cost' – multimorbidity increases:
  - mortality rates, admission to hospital and length of stay, and use of primary and secondary care and social care, and thus drives up care costs
  - it reduces quality of life, functional ability, and has societal effects such as ability to work and look after family. It is associated with polypharmacy, increased treatment burden, and contributes to frailty
- It is most prevalent in high-income countries but is of growing concern in low and middle-income countries.
- Patients with multimorbidity require integrated health and social care and a holistic, person-centred approach.
- Episodic specialist care is important but a primary care-based generalist approach based on continuity of care and shared-decision making is widely regarded as the key foundation of good management of multimorbidity.

What do we know about it?

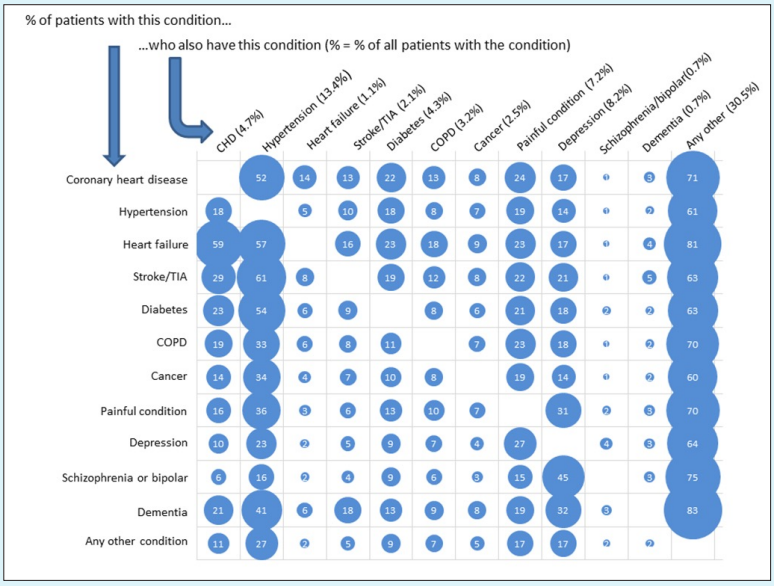
Multimorbidity increases with age. In a large, nationally representative study in Scotland, multimorbidity was found to be the norm, not the exception, in people aged over 65 years of age (more people in later life have multimorbidity than only one or no conditions).[3]



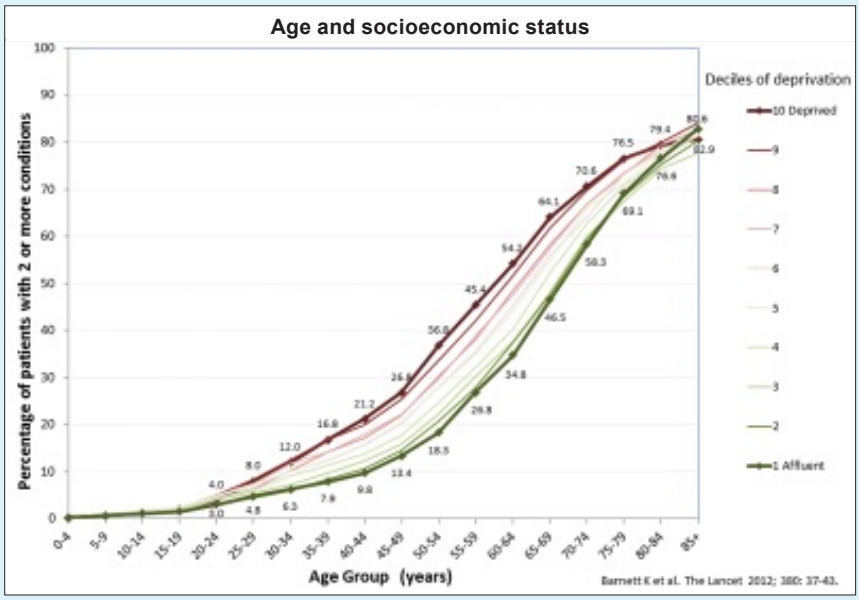
Across the population as a whole (all age groups combined), it is more common to have multimorbidity than a single condition.



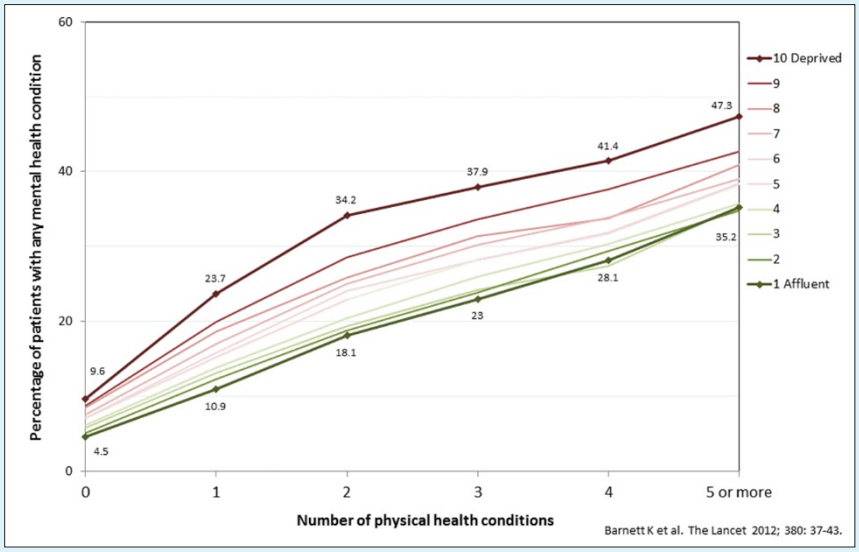
Combinations of conditions in people with multimorbidity do not fall in neat clusters. Although some conditions do cluster as expected due to their shared underlying aetiology, such as heart failure, coronary heart disease, and hypertension, as shown in the figure below some patients also commonly have painful conditions, depression, and other conditions.



Multimorbidity is socially patterned – while prevalence increases with age, it is more common, and occurs at a much younger age, in people living in deprived areas – as shown to the right.



Mental health problems are strongly associated with the number of physical conditions that people have, particularly in deprived areas in Scotland. As shown below, almost a half of all people living in the most deprived areas of Scotland with five or more physical health conditions have a diagnosed mental health problem, whereas in the most affluent areas this falls to just over a third.



Multimorbidity is not only a problem in High-Income Countries but is of growing concern in Low and Middle-Income countries as well.[2,4]

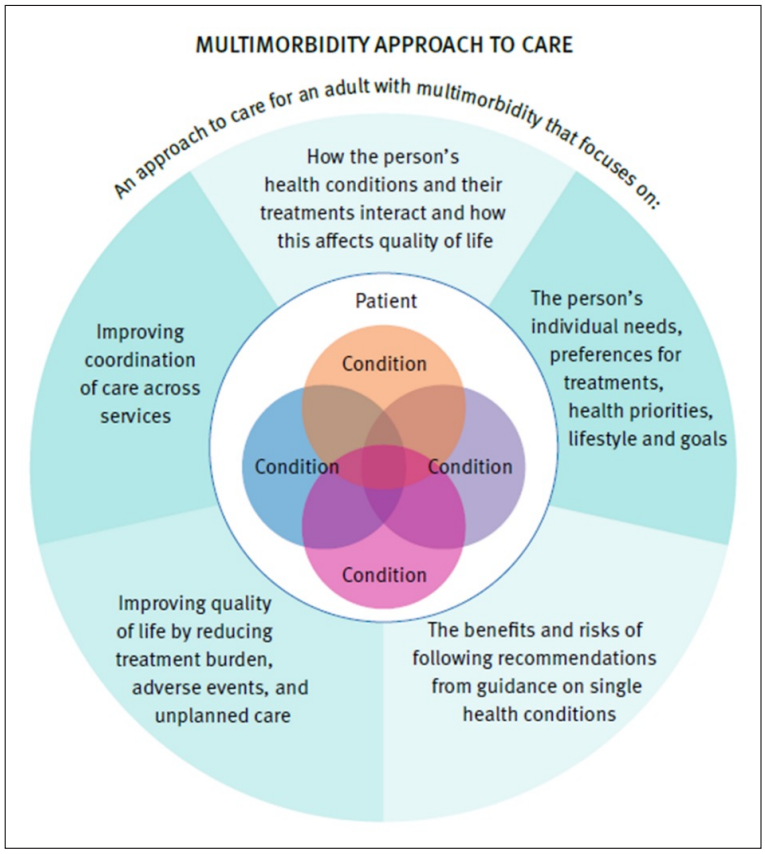
What helps?

The NICE Guidelines on Multimorbidity suggest the following approach to care for patients with multimorbidities. This is based on a person-centred, holistic approach involving shared decision making. Integration and coordination of care is of key importance. Clinicians must also weigh up the potential risks and benefits from following single-disease guidelines, which are largely based on studies that have excluded patients with multimorbidity.

The scientific evidence-base for the management of multimorbidity is still at a very early stage, with Cochrane systematic reviews finding a limited number of trials worldwide that have specifically focused on patients with multimorbidity.[5] One of the largest phase three randomised controlled trials (RCTs) on multimorbidity to date – the 3D Study – found significant improvements in patient experience and satisfaction from a complex intervention in primary care that included much of the approach outlined in the NICE Guidelines. However, no improvements were found over 15 months in mortality rates, quality of life, mental health, or polypharmacy.[6] Thus, further research is urgently required on the most effective and cost-effective ways of managing multimorbidity.

There is a particular dearth of evidence on interventions to improve outcomes for people of low socioeconomic position (SEP) with multimorbidity. A phase two cluster RCT in Scotland – the CARE Plus Study - found evidence of likely effectiveness and cost-effective of a primary care-based complex interventions in very deprived areas for targeted multimorbid patients, improvements at 12 months in aspects of well-being and quality of life. These interventions took a 'whole-system' approach,

with longer consultations with GPs, continuity of care, support and training for the healthcare staff, and self-management support for the patients.[7] Although not a definitive trial, the findings do suggest that reversing the inverse care law would lead to beneficial outcomes.[8]



What will the ACRC do about it?

Tackling the challenges of multimorbidity is of central importance to the work of the ACRC. Given the relationship between multimorbidity and age, it is likely that the vast majority of the research carried out by the ACRC (across all its work packages) will include people who have multimorbidity. Ultimately, the research conducted by the ACRC will translate into new and innovative interventions which will be tested in rigorous scientific studies to show effectiveness and affordability. ACRC innovations will seek to help integrate health and social care systems in an attempt to meet the triple aim of improving the individual experience of care, improving the health of populations, and reducing costs.[9] Any new interventions must also consider a fourth aim of improving the experience of staff providing care, an area of crucial importance which has been put into sharper focus during the covid-19 pandemic. Finally, given the social patterning of multimorbidity, new interventions must also ensure that they are accessible to all sectors of the population, as preferential uptake in one sector (i.e., the most affluent) would only serve to widen health inequalities further. The NHS and social care sector must be at its best where it is needed most, and the ACRC will seek to support this by the development, testing and implementation of new models of care.

References

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