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**Is this input submitted as an organisational or individual response?**

Organisational

**Are you happy for your response to be published by the Academy?**

Yes

**6. What should the definition of 'multimorbidity' be? How would this definition improve research and/or treatment?**

Multimorbidity should include both physical and mental health diagnoses, including physical and cognitive decline. A standardised measure of multimorbidity should be formalised, in order to standardise research and allow for comparisons across groups. Differing count-based multimorbidity measures include disease counts, selected condition counts, Charlson comorbidity index, RxRisk-V and medication counts. These have been demonstrated to produce differing estimates for emergency admission and functional decline (Wallace E, BMJ Open 2016).

**7. What are the priorities for research about the prevalence, burden and determinants of multimorbidity?**

Research should concentrate on multimorbidity in older people where the adverse effects are most marked. A particular priority would be the study of multimorbidity in specific long-term conditions such as neurodegenerative disorders. For example in dementia, only limited research to date has considered the effects of multimorbidity although there are some clues that it is important. Multimorbidity increased the risk of both mild cognitive impairment (Vassilaki M, JAGS 2015) and progression of dementia (Melis RJ, PLoS ONE 2013) in recently published studies. The pathophysiology is not well understood but elucidation of the underlying mechanisms could facilitate the development of targeted therapeutic modulation and potential preventative measures. Likewise in Parkinson's disease, the second commonest neurodegenerative disorder worldwide, very little research has been done in this area particularly with regard to the inter-relationships between motor symptoms, cognitive decline, the co-existence of other long-term conditions and the impact on mortality.

**10. What should be the strategic response of both national and international research funders and agencies be to multimorbidity?**

The strategic response should be working closely with ageing researchers such as academic geriatricians with successful track records in taking forward the diagnosis and management of older people with complex healthcare needs including multimorbidity. This would ensure that the extensive evidence base to date is not overlooked and existing expertise could be harnessed to take the field forward in collaborative initiatives across disciplines. There is much that could be learnt from innovative approaches to the management of multimorbidity in older people currently underway in the UK that could be applied to individuals of all ages.