OP29 Dynamics of multimorbidity in England between 2004 and 2019: a descriptive epidemiology study using the clinical practice research datalink

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Abstract

**Background** An estimated 25% of GP patients within the UK have multimorbidity, a large proportion of which is attributable to non-communicable diseases, many of them preventable. The heterogeneity of existing study methodologies and definitions of multimorbidity limits comparisons to assess temporal trends. This study aims to use a large population-representative single dataset and disease list to describe changes over time in multimorbidity incidence and prevalence.

**Methods** We selected a random sample of 1m adults from the Clinical Practice Research Datalink (CPRD Aurum database) registered at participating GP practices within England between 2004 and 2019. We used two measures of multimorbidity: a) basic multimorbidity: two or more chronic conditions; b) complex multimorbidity: at least three chronic conditions affecting at least three body systems. A multidisciplinary team discussed the list of chronic conditions of interest, including long-term mental health conditions and chronic infections.

Using standard formulae, we calculated crude and age-sex standardised annual multimorbidity prevalence and incidence to assess trends over time. We also calculated the average age of onset for basic and complex multimorbidity. Analyses were conducted using R v3.6.3.

Participants will be linked to quintiles of the 2015 Index of Multiple Deprivation as a measure of area-level socioeconomic deprivation to describe socioeconomic inequalities in temporal trends.

**Results** Preliminary results show that age-sex standardised annual prevalence increased from 32.9% (95% CI: 32.7% - 33.1%) with basic multimorbidity and 14.9% (95% CI: 14.7%-15.0%) with complex multimorbidity in 2004, to 51.0% (95% CI: 50.8% - 51.3%) and 29.9% (95% CI: 29.7% - 30.1%) in 2019, or by 55.3% and 101.0% respectively.

Basic multimorbidity incidence per 10,000 person-years showed little change from 644 (95% CI: 631 – 658) in 2004 to 669 (95% CI 648 – 690) in 2019. There was an increase in the incidence of complex multimorbidity from 322(95% CI: 315- 330) to 418 (95% CI: 407 – 430).

The mean age of incident multimorbidity onset was 48.8 (95% CI: 48.7 – 48.8) years for basic and 57.5 years (95% CI: 57.5 – 57.6) for complex multimorbidity.

**Conclusion** The prevalence of both basic and complex multimorbidity has increased substantially over the last 15 years. Complex multimorbidity incidence and prevalence have increased more rapidly than for basic multimorbidity. This highlights the need for improved population-level prevention strategies to postpone and prevent the onset of long-term conditions. Our next step is to assess whether there are socioeconomic differences in these temporal trends.