Tackling socioeconomic disparities in multimorbidity

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Medical and public health research and practice have long relied on trials and studies that use the occurrence of single adverse events, such as cardiovascular disease, cancer, or death, as their primary outcome measures. Undoubtedly, these studies hold significant value, but their scope is limited in comprehending health beyond specific diseases. With the ageing population and improved medical care, a growing number of individuals are living long enough to face multiple chronic conditions simultaneously. Projections suggest that by 2035, as many as one-fifth of UK residents aged 65 and older will have four or more health conditions.[1] Hence, alongside identifying prevention and treatment strategies for specific diseases, attention must be directed toward other transitions in health, including the progression from single diseases to multimorbidity.

Multimorbidity, the coexistence of two or more chronic conditions, poses unique challenges for researchers and healthcare providers.[2] The interplay between concurrent conditions can worsen disease progression and complicate disease management, necessitating carefully designed treatment plans to address polypharmacy and medication interactions. Patient characteristics, such as age, sex, ethnicity, and socioeconomic background, may further impede the prevention and treatment of multimorbidity. Research in this field is rapidly expanding to better understand risk factors associated with multimorbidity and, ultimately, to tackle these challenges.

In the current issue of *The Lancet Regional Health Europe*, Lyons and colleagues conducted a study investigating socioeconomic disadvantage as a risk factor for the occurrence of 132 diseases, multimorbidity and mortality across the lifespan.[3] The study was based on a cohort of 965,905 Welsh residents aged 5–104 years, with a follow-up period from 2000 to 2019. By employing multi-state modelling and analysing data from general practitioner records, hospital admissions, and death certifications, the authors found that individuals living in the most socioeconomically deprived areas experienced faster transitions from a healthy state to disease, multimorbidity, and ultimately death compared

with those residing in the least deprived areas. Thus, among disease-free individuals, 20.9% in the most deprived areas developed one chronic condition, compared with 18.6% in the least deprived areas (a difference of 2.3 percentage points). The discrepancy between the two groups increased to 3.1 percentage points for the development of two or more chronic conditions, and 7.2 percentage points for mortality following the onset of multimorbidity.

The study's strengths lie in its outcome-wide approach to socioeconomic disparities in health transitions, and the utilization of population-based data, covering a wide age range from childhood to old age. This allowed for a comprehensive assessment of participants' medical history. Additionally, the study benefits from a large sample size and a long follow-up period. These strengths contribute to insights that are complementary to previous smaller-scale studies, which focused on a narrower range of diseases, limited their scope to adulthood and old age, and used non-representative samples.[4–6] The findings by Lyons et al. are consistent with suggestions that emphasise the impact of socioeconomic status on the risk of multimorbidity, frailty, and disability.[7]

The study's limitations primarily relate to data availability, as the use of residential deprivation as the sole socioeconomic marker may not capture the full range of socioeconomic circumstances. Furthermore, relying on routine healthcare data and record linkage may overlook individuals who have not been formally diagnosed. While the first limitation may have led to an underestimation of the extent of socioeconomic disparities, the latter is unlikely to have introduced major bias since this limitation impacted all socioeconomic groups equally. It is also important to note that the observational study by Lyons et al. does not allow for causal inferences. Instead, the results merely identify a group that faces a significantly elevated risk of experiencing poor health and multimorbidity.

Besides addressing these limitations, future research exploring social inequalities in multimorbidity should prioritise diagnosis-specific analyses of disease trajectories, elucidating potential clustering of specific morbidities linked to social status. Prior research has indicated that specific disorders manifest at different life stages.[8,9] For example, infections are particularly prevalent during childhood, while obesity and mental health issues tend to arise in early adulthood. Dyslipidaemia and hypertension become more prominent in midlife, whereas type 2 diabetes, vascular disease, osteoporosis,

and dementia are commonly observed in old age.[8] The extent to which socially disadvantaged individuals experience these conditions within disease trajectories is an important topic for future research. Gaining a better understanding of the cellular and molecular mechanisms involved in these phenomena is also crucial. This knowledge will provide valuable insights into the effects of socially patterned health-damaging processes, including environmental exposures, dysregulated stress systems, and accelerated ageing.[10,11]

With the addition of Lyons and colleagues' work, the evidence calls for action by healthcare providers and policymakers to address social inequalities across all stages of health. Enhancements in primordial, primary, secondary, and tertiary prevention of chronic diseases are warranted.

Contributors
Both authors contributed to the concept and writing of the manuscript.

Declaration of interests
The authors declare no competing interests.

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