

## Is there a north–south mortality divide in England or is London the outlier?



In *The Lancet Public Health*, Evangelos Kontopantelis and colleagues<sup>1</sup> present their findings from a population-based study of mortality in people aged 25–44 years in the north versus the south of England, and in London versus other regions. Kontopantelis and colleagues found that, between 1981 and 2016, excess mortality in the north widened compared with the south of England from the mid-1990s onwards, and that much of this widening was attributable to more deaths from alcohol, accident, and drug poisoning. Although framed in terms of the north–south divide, several findings in the study raise intriguing questions about whether the north–south health disparities in young adults (25–44 years old) are largely differences between the north and south of England, or simply London and not London. In much of the study, north and south were defined operationally as each comprising five of the ten government office regions for England. However, each government office region's excess mortality in comparison with the London region was also presented and showed that although four of the five highest excess mortality regions were in the north, all nine regions had substantially higher excess mortality than London. Thus, London is clearly an outlier among the government office regions. Spatial analysis of all-cause mortality also showed clustering of mortality in urban areas in the north, further showing the importance of urban–rural differences.

It is paradoxical that London, the largest urban area, has the lowest mortality of all the populations compared, when in general urban areas in the UK have substantially higher mortality than rural areas. On a shaded map this represents an archipelago of urban islands of high mortality surrounded by rural areas of lower mortality. Two particular features are worth considering: ethnic diversity and the related, but different, healthy migrant effect, which applies both to internal migration from the rest of Great Britain and international migration from other countries.<sup>2,3</sup> In short, the healthy migrant effect is likely to be in operation to London's benefit because it is a centre for government, academia, and business and therefore attracts those who have been upwardly socially mobile. It also attracts people from abroad for

the same reasons, who might be relatively privileged for their country of origin but might not appear to be so by UK income levels.

The 25–44 years age strata used in the study could be disaggregated further, which would help to understand how the burden of risk varies between the ages of 25 years and 44 years, and the effect of London's younger population within this strata.<sup>4</sup> Some external causes of death, such as accidents, tend to occur at younger ages, whereas risks of death from internal causes, such as cardiovascular disease and many cancers, tend to increase with age, owing largely to biological processes.<sup>5</sup> Internal causes suggest less successful (ie, accelerated) ageing, whereas external causes point to events and factors that result in death more swiftly and suddenly. Understanding the causes of the causes of external deaths and inequalities therein have led researchers in the USA to describe alcohol-related and drug-related deaths, and suicides, as deaths of despair.<sup>6</sup>

Grouping together 25–44-year-olds over time can hide important patterns relating to damaging effects over the life course. Likewise only looking at differences between two groups, rather than values associated with either group, can hide important secular patterns. Contour plots in the Article's appendix, which show how risk differences vary by both age and year, suggest that northern excesses in drug-related and alcohol-related deaths and suicide persist in those who entered adulthood in the 1990s even as they approach middle age; a scarring cohort effect similar to that observed in Scotland.<sup>7</sup> This persistence is a delayed consequence of the shift to neoliberalism in the 1980s, which differentially affected the working class, more deprived areas, the north, and areas made vulnerable by urban policy in the second half of the 20th century.<sup>8</sup>

The north–south divide is a simple conceptual categorisation on which further research can be grounded. The divide should be the start not the end of the journey, as the finding that London is England's regional outlier, and that without London's inclusion the north–south divide would be much narrower, clearly shows. Understanding the north–south health inequalities requires a deeper understanding of London's

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paradoxical public health profile. The additional analyses performed and provided by the authors in the paper's appendices already take us some way along this next stage.

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We declare no competing interests.

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- 1 Kontopantelis E, Buchan I, Webb RT, Ashcroft DM, Mamas MA, Doran T. Disparities in mortality among 25–44-year-olds in England: a longitudinal population-based study. *Lancet Public Health* 2018; published online Oct 30. [http://dx.doi.org/10.1016/S2468-2667\(18\)30177-4](http://dx.doi.org/10.1016/S2468-2667(18)30177-4).
- 2 Gruer L, Cézard G, Clark E, et al. Life expectancy of different ethnic groups using death records linked to population census data for 4.62 million people in Scotland. *J Epidemiol Community Health* 2016; **70**: 1251–54.
- 3 Tunstall H, Mitchell R, Gibbs J, Platt S, Dorling D. Socio-demographic diversity and unexplained variation in death rates among the most deprived parliamentary constituencies in Britain. *J Public Health (Bangkok)* 2012; **34**: 296–304.
- 4 Minton J, Green M, McCartney G, Shaw R, Vanderbloemen L, Pickett K. Two cheers for a small giant? Why we need better ways of seeing data: a commentary on: 'Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century'. *Int J Epidemiol* 2017; **46**: 356–61.
- 5 Remund A, Camarda CG, Riffe T. A cause-of-death decomposition of young adult excess mortality. *Demography* 2018; **55**: 957–78.
- 6 Case A, Deaton A. Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century. *Proc Natl Acad Sci USA* 2015; **112**: 15078–83.
- 7 Parkinson J, Minton J, Lewsey J, Bouttell J, McCartney G. Recent cohort effects in suicide in Scotland: a legacy of the 1980s? *J Epidemiol Community Health* 2017; **71**: 194–200.
- 8 Walsh D, McCartney G, Collins C, Taulbut M, Batty GD. History, politics and vulnerability: explaining excess mortality in Scotland and Glasgow. Glasgow, 2106 [https://www.gcph.co.uk/assets/0000/5988/Excess\\_mortality\\_final\\_report\\_with\\_appendices.pdf](https://www.gcph.co.uk/assets/0000/5988/Excess_mortality_final_report_with_appendices.pdf) (accessed Oct 26, 2018).