



The risks of social isolation

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Summary

Responses to the pandemic continue to involve forms of isolation. Social isolation is associated with higher mortality, and the imposition of prolonged severe restrictions would be likely to have a material mortality impact on the groups involved.

Thus, Government policy responses involving isolation should have regard to a comparison between 'COVID mortality' and 'socially isolated mortality', rather than 'COVID mortality' and 'normal mortality'.

“The world is currently experiencing the largest isolation experiment in history. In an attempt to slow down the spread of the COVID-19 pandemic numerous countries across the world have been shutting down economies, education, and public life. Governments have mandated strict regulations of quarantine and social distancing in an unprecedented manner.” (Nature, 22 October 2020¹)

Introduction

Much has been written about the mental health problems associated with the pandemic and policy responses to it. This is clearly a material concern in terms of people's general sense of well-being, but unlikely to lead to the widescale worsening of mortality.

There are material individual impacts on mortality from mental health; for instance, an analysis of around 68,000 UK lives (Russ et al.²) reports almost a doubling of mortality for more severe categories. However, if we consider the number of such cases likely to be caused by the pandemic (of the order of 1% of the UK population, per the Centre for Mental Health³), we can conclude that the overall population mortality impact is likely to be low (and within typical annual mortality variations).

However, we should think beyond the 'formal' categories of mental health disorder on which such research has been based. With much of the next year, if not beyond, likely to involve continuing social distancing and isolation in various forms for many parts of society, we need to consider the possible mortality impacts of such isolation. The onus of enforced (or heavily prescribed) isolation is likely to fall on the oldest, and this may have a material impact on longevity.

For simplicity and brevity, we look in this Bulletin only at mortality impacts, but clearly there would be a range of other effects from general mental distress to particular morbidity impacts.

Research into social isolation

There is a growing body of literature on this topic. One study following 6,500 people in the UK (ages 52 and over) found social isolation was associated with a 26% increase in all-cause mortality⁴. A larger Danish study (around 21,600 people, with a wider age range than the above UK group) found social isolation associated with 60-70%⁵ increases to all-cause mortality. A study⁶ involving the colossal UK Biobank data (467,000 participants, average age 57) showed up to +78% mortality in respect of social isolation, reducing to +26% allowing for confounding factors (although not all of that reduction is necessarily appropriate in this context, ie the hazard ratio would be above 26%).

Other work exists looking at particular conditions. A meta-analysis by Kuiper⁷ published in 2015 on the interaction between social participation and dementia found social isolation associated with a 40-60% increased risk of dementia in the elderly (the range representing various different forms of social isolation, rather than a particular confidence interval).

If anything, we can reasonably assume the problem will be worse than those figures imply, with some enforced isolation not even allowing the briefest of visits (as opposed to the broader idea of isolation underlying mainstream studies into the subject).

There is also (this being the author's personal view) the problem that social isolation for the elderly in the current situation may occur in a context of 'hopelessness' regarding the future. This would be in contrast to some of the research done on the topic; for instance, the initial study referenced in the opening quotation which looked at the effects of isolation in astronauts, who we would expect to be fuelled by a sense of purpose in their extra-terrestrial missions.

Plausible impacts

We can develop various plausible (albeit 'back of envelope') scenarios to estimate the impact of this problem. For instance, suppose that 50% of the over-75s endure a long period of either 'formal' social isolation or heavily reduced social participation, and hence see (for example, in line with the above studies) a 25-50% increase in mortality for 1-2 years. That would be equivalent to anything from an increase of 12.5% to 50% in a typical year's deaths for the over-75s (perhaps spread over several years).

While the '50% extra' extreme scenario may not (we hope) be realistic, to the extent that it would require two years of heavy social isolation, the range does show that this could be a material problem.

To the extent that lockdown (or equivalent social distancing and shielding) measures reflect a comparison between 'mortality with COVID-19' and 'mortality without COVID-19', that comparison becomes rather different if the latter term is reinterpreted and recalculated as 'mortality without COVID-19 but with social isolation'.

Conclusion

A recent press report⁸ noted, "Elderly people in Sweden no longer need to isolate themselves, the government said on Thursday, pointing to lower Covid infection rates than in spring and a growing toll on the mental health of its elderly as behind the new recommendation."

While we have not seen direct evidence of such shifts in policy in other countries, the points and approximate calculations noted above make it clear that any 'fine-tuning' of lockdown and/or shielding measures should be done with the aim of minimising excess mortality bearing in mind the 'competing risks' of the coronavirus and social isolation, rather than minimising COVID-19 mortality per se.

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- ¹ <https://www.nature.com/articles/s41526-020-00122-8>
 - ² <https://www.bmj.com/CONTENT/345/BMJ.E4933.full>
 - ³ https://www.centreformentalhealth.org.uk/sites/default/files/2020-05/CentreforMentalHealth_COVID_MH_Forecasting_May20.pdf
 - ⁴ <https://www.pnas.org/content/110/15/5797>
 - ⁵ <https://www.nature.com/articles/s41598-018-22963-w>
 - ⁶ [https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667\(17\)30075-0/fulltext](https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(17)30075-0/fulltext)
 - ⁷ <https://pubmed.ncbi.nlm.nih.gov/25956016/>
 - ⁸ <https://www.telegraph.co.uk/news/2020/10/22/sweden-loosens-covid-lockdown-rules-elderly-vulnerable-due-mental/>