

EDITORIAL

COVID-19: lessons learned the hard way

Keywords: COVID-19, ageism, guidance, trials, older people

Key Points

- Older adults hospitalised with COVID-19 presented earlier and had improved outcomes in the second wave compared with the first.
- Higher frailty score is associated with higher COVID-19 mortality but it is important to avoid nihilism.
- Geriatricians/Gerontologists should be involved early in pandemic preparedness planning.
- Trial population demographics should match future treatment populations.

By the beginning of April 2022, there had been over 480 million confirmed cases of coronavirus infection globally and over 6 million deaths [1]. Older people have been particularly affected, with higher rates of hospitalisation and death, in the United States, Canada and Europe (including the UK) [2]. That older people were disproportionately affected by this illness was apparent very early in the pandemic and both increased age and high clinical frailty score have subsequently been shown to be associated with COVID-19 mortality and increased care needs in survivors [3, 4].

Blomaard and colleagues [5] report on the experiences of 16 hospitals in The Netherlands during the first and second waves of the coronavirus pandemic (The COVID-OLD Study). Data on the characteristics and outcomes of 1,376 older (≥ 70 years) patients in the first wave and 946 patients in the second wave were extracted from electronic health records and compared. The baseline characteristics of the two populations were similar in some respects with no significant differences in sex, Clinical Frailty Scale, Charlson Comorbidity Index, history of diabetes, myocardial infarction or dementia. The patients in the second wave were, however, older (79 vs. 78 years), less likely to be living at home (86.6 vs. 89.9%), more likely to have a history of chronic lung disease (29.4 vs. 25.4%) and more likely to be at risk of delirium (41.4 vs. 34.5%). Despite these factors, which might be anticipated to increase the risk of poorer outcomes, in-hospital mortality was lower during the second wave (26.6 vs. 37.5% $P < 0.001$). Fewer patients needed admission to intensive care (8.3 vs. 10.9%), fewer were intubated (63.9 vs. 84.5%) and more were discharged to their own homes (64.1 vs. 60.6%). After controlling for confounding factors,

the authors report that inpatient mortality was 40% (95% confidence interval: 28–51%) lower during the second wave.

This improvement in in-hospital mortality, observed across multiple centres in the Netherlands, is in keeping with the wider literature. Navaratnam and colleagues also observed a reduction in inpatient mortality, albeit over a shorter study period spanning 1 March–31 May 2020, in a retrospective analysis using Hospital Episode Statistics data for 91,541 adults hospitalised with COVID-19 in England [6]. Although this study included patients aged 18 years and over, rather than focusing on older adults, the improvement in mortality was most marked in the 70–79 years and 80 years and older groups, with mortality in the latter group more than halving over the 3-month study period. Such improvements in outcomes have been attributed, at least in part, to increased knowledge and clinical experience, together with improvements in diagnostics and treatment. This underlines the fact that, although it is important to recognise the impact of age and frailty on COVID-19 outcomes, diagnostic and therapeutic nihilism should be robustly resisted.

Age, as a risk factor for severe disease, was factored into many national guidelines in the very early stages of the pandemic. However, early planning focussed on the minority of patients whose condition would require intensive care support. Fears around access to ventilation, in particular in the UK driven by the low per capita intensive care bed base, dominated in the professional and lay media at the time. In some institutions, guidance was produced for children and adults, but the specific needs of older frailer individuals were not examined [7]. ‘Atypical’ symptoms that were common in older people such as delirium were not highlighted or factored into initial guidance or public health campaigns [8]. Outcomes focused on measures such as mortality rather than outcomes that are more meaningful in frailer older people such as function, quality of life and long-term care needs. The evidence base around the optimum inpatient management of older people in the form of Comprehensive Geriatric Assessment has been established for the past three decades [9]. Geriatricians and their multidisciplinary teams have extensive experience of applying these management techniques but in many instances this expertise was not mobilised. The speed at which the international research community used routine clinical data, moved to establish evidence-based treatments for COVID-19, and accelerated vaccine development was remarkable. However,

older adults were underrepresented in COVID-19 clinical trials due to upper age limits or exclusion criteria, which listed comorbidities common in older patients [10] or, in the case of vaccine trials, included only healthy individuals [11]. Blomaard and colleagues, in the COVID-OLD study, illustrate the value of electronic health records for conducting rapid large-scale research, including in older adults, and the importance of having systems in place to facilitate the rapid utilisation of such routinely collected data in future pandemics.

There will be many lessons to be learnt from the experiences of the last 2.5 years. Some of this experience will reinforce previous concerns about the risk of ageism in healthcare provision and in research which has been discussed at length in the literature [12]. The coronavirus pandemic is ongoing and looks unlikely to be over any time soon. What is certain, is that when the current outbreak is behind us, there will be future pandemics. These are likely, once again, to disproportionately affect older frailer people of whom there will be a much higher number. It is vital that geriatricians be involved in planning the response to future pandemics and in championing the delivery of care for older frailer people. Healthcare services and healthcare education need to align with changing demographics, not just to manage the impact of future pandemics of infective illness, but the slowly rising pandemic of frailty and multimorbidity.

TOMAS JAMES WELSH^{1,2,3}, EMMA TENISON³

¹Research Institute for the Care of Older People (RICE), Bath, B&NES, UK

²Royal United Hospital Bath NHS Foundation Trust, Bath, B&NES, UK

³Population Health Sciences, Bristol Medical School, University of Bristol, Bristol, UK

Address correspondence to: Tomas Welsh, RICE, Royal United Hospital, Combe Park, Bath BA1 3NG, UK.
Email: tw695@bath.ac.uk; Tel: 01 225 476420

Declaration of Conflicts of Interest: None.

Declaration of Sources of Funding: None.

References

1. WHO. WHO Dashboard. 2022 [cited 29 March 2022]; Available at: <https://covid19.who.int/> (29 March 2022, date last accessed).
2. Hussien H, Nastasa A, Apetrii M, Nistor I, Petrovic M, Covic A. Different aspects of frailty and COVID-19: points to consider in the current pandemic and future ones. *BMC Geriatr* 2021; 21: 389.
3. Dumitrascu F, Branje KE, Hladkovicz ES, Lalu M, McIsaac DI. Association of frailty with outcomes in individuals with COVID-19: a living review and meta-analysis. *J Am Geriatr Soc* 2021; 69: 2419–29.
4. Welch C, Collaborative GMR, Collaborative C. Age and frailty are independently associated with increased COVID-19 mortality and increased care needs in survivors: results of an international multi-centre study. *Age Ageing* 2021; 50: 617–30.
5. Smits RAL, Trompet S, van der Linden CMJ *et al.* Characteristics and outcomes of older patients hospitalised for COVID-19 in the first and second wave of the pandemic in the Netherlands: the COVID-OLD study. *Age Ageing* 2022; 51: afac048.
6. Navaratnam AV, Gray WK, Day J, Wendon J, Briggs TWR. Patient factors and temporal trends associated with COVID-19 in-hospital mortality in England: an observational study using administrative data. *Lancet. Respir Med* 2021; 9: 397–406.
7. O’Hanlon S, Dhesi J, Aronson L, Inouye SK. Covid-19: a call for mobilizing geriatric expertise. *Eur Geriatr Med* 2021; 12: 597–600.
8. Lithander FE, Neumann S, Tenison E *et al.* COVID-19 in older people: a rapid clinical review. *Age Ageing* 2020; 49: 501–15.
9. Welsh TJ, Gordon AL, Gladman JR. Comprehensive geriatric assessment – a guide for the non-specialist. *Int J Clin Pract* 2014; 68: 290–3.
10. Prendki V, Tau N, Avni T *et al.* A systematic review assessing the under-representation of elderly adults in COVID-19 trials. *BMC Geriatr* 2020; 20: 538.
11. Veronese N, Petrovic M, Benetos A *et al.* Underrepresentation of older adults in clinical trials on COVID-19 vaccines: a systematic review. *Ageing Res Rev* 2021; 71: 101455.
12. Mikton C, de la Fuente-Núñez V, Officer A, Krug E. Ageism: a social determinant of health that has come of age. *Lancet* 2021; 397: 1333–4.

Received 7 April 2022; editorial decision 8 April 2021