

EDITORIAL  
INFECTIOUS DISEASES

# “Not Wars, Water pumps”—From emotive to rational language in managing the Covid-19 pandemic

At the date of writing this editorial, there is now agreement among experts that the first wave of the United Kingdom's (UK) COVID-19 pandemic is in decline.<sup>1</sup> The number of deaths reported each day is now around 1% of the cumulative total and falling. In general, the approach to predicting pandemic policy has been through a comparison of inter-country performance in managing this crisis. While all countries are paying a high price in economic slowdown and lives lost, the health consequences in terms of cases and deaths have varied considerably. Countries with lower relative mortality and infection numbers have shown a more structured logical approach to pandemic management.

While there will be an inevitable public enquiry in due course around the UK government's response to the pandemic, there is a very real urgency to learn lessons immediately given the pressure to reduce the home confinement policy as soon as possible. Although this is a challenging time for policy makers, public health messaging is often emotive around concepts such as “being at war” with the virus, and other similar statements. We propose that a more rational approach to moving forward is required to avoid a second wave. Understanding this rational approach can be found through an evaluation of not only how other countries are approaching this challenge but also from history.

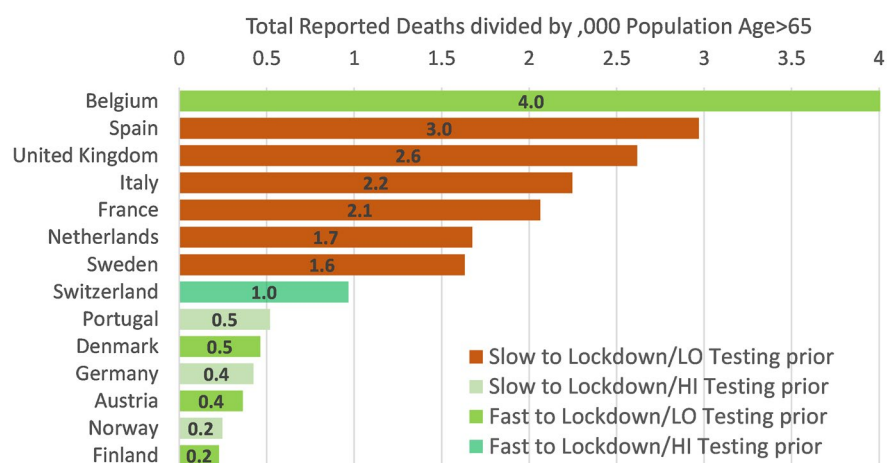
We considered the consolidated latest mortality and test data<sup>2</sup> from national sources, which provides a summary of current progress in managing the pandemic. We also considered the speed and type of social response in level and severity of lockdown. Using this

data, we have explored the UK's performance against European neighbours and created a mortality ratio for each of the major countries as the overall number of deaths against the vulnerable group with age over 65<sup>3</sup> (Figure 1). To highlight the impact that differences in local approaches to infectious disease management have on outcome more clearly, we have grouped countries into four classes based on the level of early identify and trace (HI – Total number of tests prior to lock down > 5/1000 population) and speed of response (HI – Duration between total cases reaching 50 and maximum lockdown <14 days).

While there are some issues about the comparability of data across countries (eg, because of different diagnostic and reporting frameworks), this analysis demonstrates the wide variation in relative mortality rates, with some being an order of magnitude lower compared with others. This variation is likely to be due in part to differences in levels of active intervention including testing, along with another critical factor of active protection of vulnerable groups. The most effective approach to achieving this is likely to involve a mix of targeted testing, earlier case detection, isolation, and segregation within the care environment. These factors are what seem to separate effective pandemic management from less effective management.

There will no doubt be ample opportunity in due course to evaluate the rights and wrongs of the wave 1 pandemic management but our concern is how to ensure we are fully prepared for any wave 2. An optimal solution would, of course, be a vaccine. However, this is unlikely to be available until next year,<sup>4</sup> which leaves a large window

**FIGURE 1** International Comparison of total COVID-19 reported deaths up to 15/5/2020 divided by national population age > 65 per 1000 population



in virus terms for a new wave of infection. Optimising our approach early is therefore critical.

An example from history which could inform this optimal approach is where the science of epidemics began with the physician John Snow, who identified in 1854 the source of a cholera outbreak in London, which killed 616 people, to one water pump.<sup>5</sup> He traced all victims' movements back to a common factor as evidence that eventually led to the offending water pump being decommissioned and the handle removed. However, reminiscent of the events at the root of the current global outbreak, government officials did not initially believe him and delayed acting while people continued to die.

With more than 35 341 UK residents dead from this first wave at the time of writing (19 May 2020)<sup>1</sup> we must learn the lessons not only from other countries but also from history. Rather than speak of "war," we need to speak of "water pumps" and the lessons learnt that success is gained from a careful methodical approach whereby all cases are identified as exactly and early as possible, while at the same time the more vulnerable among us are also identified and protected. Perhaps then we will reduce future waves of this virus and achieve some form of, if not normality, stability for the economy and the NHS/Care sectors.<sup>6</sup>

John Snow's seminal paper on the Cholera outbreak in London in the 19th Century and his investigation into its origin from a single water pump had tremendous impact on the development of public health in this country and the world. Whereas the epidemiologic model in Snow's investigation was straight forward (despite a lot of initial resistance from the scientific community of the day) it is not so with COVID-19.

A disciplined rational approach as we describe, will only serve to enable a strong recovery across all sectors as we go forward to what will be a different landscape in many ways, from the world we knew. That methodical approach is needed but still remains elusive.

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