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COMMENTARY

Learning from success: how has Hungary responded to the COVID pandemic?

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In 2019, an international panel of experts developed the Global Health Security Index, a measure that ranked the countries of the world in terms of their preparedness for a major threat to health, such as a pandemic (Global Health Security Index, 2019). It combined a portfolio of indicators in areas such as prevention, detection, and reporting, and ability to mount a rapid response. The choice of measures was informed by evidence of what worked and the overall ranking seemed to make sense. Yet, it has not stood the test of time. The USA was ranked first out of 195 countries, with the UK second. Yet by no stretch of the imagination could either of their responses be described as effective. Brazil was ranked in 22nd place yet the situation there is catastrophic. Hungary came in at only 35th place yet it has performed far better than many countries that were expected to do much better.

Inevitably, the first question to ask when undertaking a comparison of health responses is whether the data are accurate. The accompanying paper, by Merkely and colleagues, provides reassurance that Hungary has indeed managed to control the pandemic (Merkely et al., 2020). They report a nationwide survey in which subjects were tested for the presence of the COVID-19 antigen, using PCR testing, and of antibodies. They found that evidence of COVID-19 infection was very rare. Their central estimate of those testing positive on PCR was 2.9/10,000. Put another way, someone in Hungary would have to interact with, on average, 3500 others to encounter someone who is infected. Consistent with this figure, only 0.68% of the population was found to have antibodies, a marker of previous infection, far lower than the 5% or so reported from countries that were much harder hit, such as Spain (Pollán et al., 2020). Of course, none of these tests is perfect. There are false positives, as when PCRs identify fragments of viral RNA after they have ceased to have active infections, and false negatives, for example due to faulty sampling technique (Watson et al., 2020). There are many outstanding questions about the meaning of antibody tests, with evidence that they may decline in the weeks following infection in some people (Seow et al., 2020), although fortunately it now seems that this does not equate to declining immunity as responses by T cells are emerging as equally or more important, albeit more difficult to measure.

Given that sampling for PCR testing is not a pleasant experience, requiring swabs to be inserted into the nasopharynx, the research team is to be applauded for achieving a response rate of 66%. As they report, this reflected a multi-faceted approach, making full use of connections to communities through general practitioners. The ability to take advantage of these mechanisms reflects a longstanding investment in building links between public health and primary care in Hungary (Sándor et al., 2013). However, we know that, in other countries, COVID-19 infections are much more common among marginalised populations and in those very few countries that collect data on ethnicity,

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especially among minority ethnic populations (Aldridge et al., 2020). These groups are often excluded from the sampling frames used in surveys, for example because they are undocumented or seek to remain invisible to the authorities. They may also be reluctant to participate in surveys because of fear of being stigmatised. In Hungary, Roma have long experienced discrimination, but especially so in recent years (Sándor et al., 2017; Fésüs et al., 2012). As a consequence, the figures reported must be considered a lower bound of what is happening. Yet, even allowing for that, it is clear that Hungary has fared much better than many other European countries. Why?

We can identify three issues that influence how a country will respond: politics; scientific advice; and operational capacity. Taking them in reverse order, it is clear that a country will be limited in what it can do if it lacks laboratory facilities. This is especially important with a disease like COVID-19 where, as the accompanying paper reminds us, many of those infected have few or no symptoms yet are capable of transmitting it to others. However, it is also necessary to have a comprehensive system of find, test, trace (contacts), isolate, and support. Yet, too often, only some elements are in place and, even then, they may be fragmented and poorly coordinated. Obviously, this requires resources. Yet, some countries, such as Rwanda, have shown what can be done by mobilising the population to help in a variety of roles. Hungary, in common with several of its neighbours, is fortunate in having a relatively well-developed laboratory system, linked closely to the public health system.

Responses must, however, be based on the best available evidence. This has been challenging given the rapid growth in research. This has been beyond what could have been imagined even a few years ago. The virus's genome was decoded within weeks of the microorganism being discovered. Candidate vaccines are entering phase III trials only 6 months later. Some clinical trials of potential treatments have already been completed. However, countries need to make the right decisions and have the capacity to synthesise this information and present it to decision-makers. While some in Sweden still maintain that they made the right choice in refusing to impose lockdowns, instead allowing herd immunity to develop, that position seems increasingly less credible (Kamerlin & Kasson, 2020). Hungary was a pioneer in developing public health training in central Europe and has benefited from the capacity that this developed (Adány et al., 2002).

Neither of these is, however, sufficient, if the politicians refuse to act or act inappropriately. The dangers are all too apparent when looking at the countries that have performed worst, with the USA and Brazil led by politicians that have rejected the evidence, instead putting forward a series of often bizarre proposals that defy the basic laws of science, or even any sense of logic (McKee et al., 2020). This has undoubtedly cost tens of thousands of lives. Again, Hungary was fortunate as the government acted extremely quickly, at a time when closing down even a few days earlier could make an enormous difference.

So Hungary seems to have done very well. Yet, a note of caution is required. It is important to recognise that the responses to this pandemic themselves have consequences for health, for example by reducing access to medical care for those with non-COVID illnesses. There have been well-publicised concerns about the emptying of hospital beds early in the pandemic in Hungary (Bayer, 2020) and aspects of the government's response have featured in the increasingly polarised Hungarian political scene (Hopkins, 2020).

COVID-19 has been a test for all our societies. Some, like New Zealand, have come out of it very well. Others, like the USA, England, Russia, India, and Brazil, have clearly not. Hungary is closer to the former than the latter and, as a consequence, can now be more confident in opening up society. But at the same time, there are concerns about the political process. Looking to the future, both are important.

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