

Covid-19: The Next Steps

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After seven months we've come to accept that Covid-19 is not going to abate. It is still here, and it remains both infectious and virulent. The overall death rate has been estimated at 0.66%, rising to 7.8% in those over 80 years and declining to 0.0016% in children aged nine years and younger. The hospitalization rates also increase with age, ranging from 1% for those in their 20s, 8% for those in their 50s, and 18% for those in their 80s¹.

Herd immunity is not an option. At least 60% of the population needs to be immune to the virus in order to prevent its spread. In Ireland 5% have been exposed to the virus, which indicates that there is no significant level of immunity in the community.

All countries are now working towards medium and longer-term strategies. The stage that they are at differs from State to State but the direction is the same. There are three interlocking approaches.

The first challenge is living with the virus. This is the new reality of an economic and social life that co-exists with the pandemic. It is a difficult balancing act for all healthcare services and societies. The essence is the re-opening of day-to-day activities as much as possible while containing the Reproduction rate of the virus. The main strategy is the restriction of the movement of people, and a continued ban on large gatherings. The Government's advice is not to travel to other countries unless absolutely necessary. A further measure is the wearing of facemasks on public transport, in shops and shopping centres.

The second challenge is the planning for a possible winter surge of Covid-19. This will be about being better prepared. It is based on learning from one's own knowledge and the experiences of other countries. Boccia et al² have recently reflected on why Italy was so badly affected by the virus.

Italy has the most elderly population in Europe and is the second most elderly population in the world after Japan. The proportion of people over 65 years in Italy is 23% compared with 14% in Ireland. Their healthcare system became overwhelmed in Bergamo following a massive viral transmission during a Champions League football match on Feb 19, 2020.

Although Italy has a competent state-run healthcare system, it has only a modest number of ICU beds, 8.4 per 100,000 population. Also being a decentralized country complicated initial containment measures. A uniform approach was not adopted.

Many patients with mild symptoms were admitted to hospital and this resulted in overcrowding and transmission to healthcare workers. There were shortages of facilities, equipment and staff.

Germany has coped better than most other countries in Europe. The crisis was under control within 6 weeks of its first reported death. It has had 9,100 Covid-related deaths in a population of 83 million compared with 45,400 deaths in the UK with a population of 67 million. As of July 27, in Ireland there have been 1764 Covid-19 deaths and 25,881 cases. In children there have been 188 cases (0-4 years), 265 cases (5-12 years), 267 cases (13-17 years), and no deaths.

Ireland benefited from its centralized health system, it's clear and consistent directives, and good public communication.

The comparative mortality rates from Covid-19 are Germany 109 per million, UK 677 per million and Ireland 360 per million.

The third challenge is the ability and capacity to test and trace. This will be very important in the coming months. These tools make it possible to identify local outbreaks at an early stage. This facilitates effective contact tracing and containment. Proactive restriction can be placed on selected institutions or areas. Contact tracing requires 70-90% of the contacts to be traced in order to prevent onward spread³. Currently, Ireland has the capacity to test 15,000 individuals per day.

Serological testing in the identification of those who have had prior infection can be helpful for certain groups. It means that a seropositive healthcare worker does not require repeated periods of isolation.

It is reassuring to see the considerable resources and efforts being put in place in order to get children back to school fully at the end of August. The lockdown has placed the greatest restrictions on the lives of children encountered in modern times. It has been the longest school closure in the history of the State. Even during the Second World War schools remained open in the UK. Children's academic progress will undoubtedly have been affected. The educational concerns are greatest for primary schoolchildren. They are unable to participate in self-directing learning. The younger ones can't yet read or are only beginning to read. The consequences are particularly concerning for the 10% of children who have an intellectual disability or other learning impairment such as dyslexia, ADHD, or autism. Regression is a real concern for this latter group of children.

Recently acquired knowledge is vulnerable to loss. All child specialists agree that even short absences from school are damaging, let alone long periods over many months. School is also important in the development of a child's conversational skills, interpersonal skills, and their emotional self-regulation. As they enter post-primary education, friendships become a very influential part of their lives. By August, Irish children will have faced at least 6 months without any formal education. In addition to returning to school, 'catch up' programmes will be needed for some children⁴.

The development of an effective vaccine is showing promising signs. More progress has been made in 5 months than would normally be made in 5 years. The Phase 1 studies, which test the safety of the vaccine, have been reassuring. The take-away points are no serious side-effects, minor local reactions, and reasonably well tolerated. As the doses of the vaccine were increased, patients developed higher antibody levels. Cell mediated immunity, which is the T cell response, was also identified. We don't know what the response to infection will be like. Modeling based on what the natural immunity levels looks like may be the best approach⁵.

Richard Horton⁶ concurred that the results of two randomised vaccine trials were encouraging. Both studies found that there was a rapid onset of an immune response within 14 days, with evidence of humoral and cellular response by 28 days. There are, however, signs of a poorer immune response in older subjects and this group may need a second dose.

He does warn that the anti-vaccine campaigners are already mobilizing their opposition to a Covid-19 vaccine. The background promotion of the new vaccine needs to begin now. Public health programmes will be needed to counteract misinformation. All strands of society will need to support and get behind the vaccine when it becomes available.

References:

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