DÁIL ÉIREANN

COISTE

SPEISIALTA UM FHREAGRA AR COVID-19

SPECIAL COMMITTEE ON COVID-19 RESPONSE

Dé Céadaoin, 23 Meán Fómhair 2020

Wednesday, 23 September 2020

Tháinig an Coiste le chéile ag 10 a.m.

The Joint Committee met at 10 a.m.

Comhaltaí a bhí i láthair / Members present:

Teachtaí Dála / Deputies	
Richard Boyd Barrett,*	
Colm Burke,	
Rose Conway-Walsh,*	
Cathal Crowe,*	
David Cullinane,	
Cormac Devlin,	
Bernard J. Durkan,*	
Paul McAuliffe,	
Jennifer Murnane O'Connor,	
Fergus O'Dowd,	
Darren O'Rourke,*	
Marc Ó Cathasaigh,*	
Ruairí Ó Murchú,*	

Matt Shanahan,	
Róisín Shortall,	
Duncan Smith.	

* In éagmais / In the absence of Deputies Colm Brophy, Matt Carthy, Pearse Doherty, Neasa Hourigan, Louise O'Reilly, Pádraig O'Sullivan and Bríd Smith.

Teachta / Deputy Michael McNamara sa Chathaoir / in the Chair.

Business of Special Committee

Chairman: We have been notified that Deputies Rose Conway-Walsh, Ruairí Ó Murchú, Marc Ó Cathasaigh, Richard Boyd Barrett, Darren O'Rourke and Bernard Durkan will substitute for their party colleagues today. I will take it that the minutes of the meetings of 16 and 18 September are agreed. Is that agreed? Agreed.

Could I take it that eight items of correspondence received are noted?

Deputy Colm Burke: Could I raise an issue concerning an item of correspondence?

Chairman: Certainly.

Deputy Colm Burke: The correspondence is from HIQA. It is SCC/19RR/06. It concerns a question I raised about the engagement between HIQA and the nursing homes from 1 January 2020 to 30 March 2020. The reply states that the attached document provides details of the significant level of engagement between HIQA and the nursing homes but there was no attached document. Perhaps I missed it. I refer to paragraph 5.

Chairman: We will certainly follow up on that. We will write back asking for the information.

Deputy Colm Burke: It may have been an error but I would like to see the document.

Chairman: If there was an attached document we will seek it. Is that the only issue the Deputy wishes to raise regarding correspondence?

Deputy Colm Burke: Yes.

Chairman: Deputy Cullinane wishes to make a point.

Deputy David Cullinane: We were due to have four sessions of this committee today. Three sessions would have involved hearing from NPHET, the HSE and the Minister for Health. Despite the fact that we got the clár, the Oireachtas schedule for the week last Friday, we were notified yesterday, 24 hours in advance of this meeting, that neither NPHET, the HSE nor the Minister would be before the committee today. That is unacceptable. The reason given is that they are preparing the winter plan. The winter plan has to be more than a winter plan anyway, but I do not think that taking them away for a couple of hours would have prevented them from completing the plan. It is bad form that they are not here.

We have not had any debate in the Oireachtas yet on the Government's plan that was announced last week. There has been no scrutiny whatsoever. Regulations have been introduced by the Minister for Health that have not been scrutinised. In fact, we are not even getting notification before they go up on the website. That is unacceptable. I know that efforts have been made to reschedule the meetings for next week and some in government asked what difference it would make. That is the same as saying that the Dáil should not sit for one week and sure we will do it next week. We deserve to be treated with respect. The Minister and the HSE should be here today.

I put the HSE on notice that there is anecdotal evidence coming to Deputies from all parties about a delay in the roll-out of the flu vaccine. I do not know the reason for that. I am not even sure if that is the case or what the actual delay involves, but people have been told that by

pharmacists and GPs and we need to get the facts.

Chairman: Could I-----

Deputy David Cullinane: When the HSE is in next week, that is one of the issues that will be raised. It can give us a comprehensive overview of the situation regarding the flu vaccine. I register my protest at this meeting at the way the committee was treated. We will not sign off on the final report unless we hear from the Minister for Health next week. It has not been confirmed yet that he will be attending, but it needs to be confirmed before the day is out.

Chairman: I am conscious that we have witnesses waiting to come in. I note the points Deputy Cullinane makes. The HSE has confirmed it will attend and the questions the Deputy raises will be communicated to it. The clerk, Mr. McEnery, is in contact with NPHET and it is hoped that its representatives will be able to confirm they will come in next Tuesday. I have written to the Minister for Health and the Taoiseach with regard to the presence of somebody from the Executive, which ultimately makes the decisions based on recommendations. I cannot do any more at this stage.

Deputy David Cullinane: I accept that, but what I am saying is that I will not sign off on any final report on behalf of my party unless the Minister for Health is before the committee next week.

Chairman: That is noted.

Deputy Fergus O'Dowd: I indicated, Chairman.

Chairman: I apologise. I did not see the Deputy.

Deputy Fergus O'Dowd: It is very clear that nobody will sign off on any report without all the accountable people coming here, including the Minister for Health, NPHET and all the other parties. I wish to place on record that the first ever proposal that was made at this committee was the offer of the Taoiseach-----

Chairman: The Taoiseach and the Minister for Health-----

Deputy Fergus O'Dowd: Could I just make this point, please? The Taoiseach and the Minister for Health offered to come in here and the committee turned it down. Deputy Cullinane's party turned it down. That is why they did not come initially. It is not true to imply that they do not have an interest or that they do not want to be here. It is wrong to use this committee as a political football. It is exceptionally clear that the Government wanted to attend here as the first witnesses and the committee said "No". I am not very happy with-----

Deputy David Cullinane: I just want to respond.

Chairman: No. The Deputy can respond very briefly and then we will move on.

Deputy David Cullinane: The Minister for Health was before this committee and we supported it. The point Deputy O'Dowd raises is that at the very first meeting we felt it was appropriate that we hear from medical scientists and medical professionals and then we would hear from the Minister, which we did. There was never a situation when we did not want to hear from the Minister.

Deputy Fergus O'Dowd: The implication is that he is hiding from the committee when he

is not.

Deputy David Cullinane: It is not. It is stating the obvious.

Chairman: I thank both of my colleagues. I note the points they have made. We have witnesses who are waiting, who have given up their time to give us their views, and I would like to move on to them. I thank both of my colleagues very much. I have noted their comments.

Deputy Paul McAuliffe: I would like to come in, Chairman, if I may. I apologise for delaying the meeting as I take my seat. I have to catch my breath. Something quite serious happened yesterday in the Dáil Chamber. In effect, it was alleged that witnesses were refusing to attend this committee. I do not think that is correct. I do not think anybody here in the room believes it is correct. It is very serious. I apologise for being out of breath. I ran over here.

Chairman: I appreciate that.

Deputy Paul McAuliffe: It undermines the very strong relationship we have had with witnesses who have come before this committee.

Chairman: Indeed.

Deputy Paul McAuliffe: For Deputy McDonald to effectively say that witnesses were refusing to attend is not correct and the Chairman should clarify that.

Chairman: Before you came in, Deputy McAuliffe, I clarified that the HSE has confirmed that its representatives are coming in next Tuesday. We have not yet received confirmation from the National Public Health Emergency Team but we hope it will confirm that it will come in next Tuesday. With regard to the Executive, I have written to the Taoiseach and the Minister for Health and I hope one of them will be in a position to come in.

Deputy Paul McAuliffe: I am less concerned about Ministers. Ministers can look after themselves. However, NPHET has been a highly respected body from the start, and to put a slur on the team to the effect that it is refusing to attend the Covid-19 committee is shocking.

Chairman: As I said, we have written to it and we hope it will come in next Wednesday, but we are not in a position to confirm that yet. I am keen to talk to the witnesses who are here now.

Covid-19: Strategic Options for Government Plan to Eliminate Community Transmission

Chairman: I welcome the witnesses to our meeting this morning. They are joining us by video link from their respective offices to discuss strategic options for implementing the recently published resilience and recovery plan and for dealing with Covid-19 more generally.

I welcome Dr. Johan Giesecke, who is now a member of the strategic and technical advisory group for infectious hazards with the World Health Organization, a former chief epidemiologist of Sweden and former chief scientist with the European Centre for Disease Prevention and Control. I welcome Professor Sam McConkey, head of the department of international health and tropical medicine at the Royal College of Surgeons in Ireland and a consultant in general medicine and tropical diseases at Beaumont Hospital. I welcome Professor Tomás Ryan, associate professor of biochemistry at the Trinity College Institute of Neurosciences. Finally, I welcome

Professor Kirsten Schaffer, professor of the UCD school of medicine, president of Irish Society of Clinical Microbiologists and a consultant in St. Vincent's University Hospital in Dublin.

Before we continue the proceedings, I wish to advise the witnesses giving evidence from a location outside of the parliamentary precincts that the constitutional protections afforded to witnesses attending to give evidence before committees may not extend to them. No clear guidance can be given on whether, or the extent to which, such evidence given is covered by absolute privilege, as this has not been tested before the courts. Persons giving evidence from another jurisdiction should also be mindful of their domestic statutory regime. If a witness is directed by the committee to cease giving evidence on a particular matter, the witness must respect that direction. The statements of the witnesses have been circulated to colleagues in advance. Please confine the opening statements to five minutes so that we can allow for as much time as possible for questions and answers. I call on Dr. Giesecke to make an opening statement.

Professor Johan Giesecke: I thank the committee for the invitation. I have some observations that are completely my own - I am not representing anyone in this meeting. I used to work for Sweden but I am now simply Johan Giesecke.

My first point is that we should wait at least a year before we start comparing the strategies of countries. This epidemic is only in its beginning right now. Everyone is comparing how country X did and how country Y did. It is too early for that. The epidemic is still evolving as we speak. Even a soft lockdown, like we have had in Sweden, can be quite effective. I believe it could be effective in other countries as well. The idea is that we trust people and rely more on voluntary measures than on laws and regulations. People are not stupid. If we tell them what they should do to protect themselves and others, they will generally follow what we tell them without any policing in the streets and so on.

We should not build a strategy on the imminent advent of a vaccine. We might have to wait for it and it may not be effective on those who need it most. We may compare it to the flu vaccine, for example, which has worked less well or not so well on old people as young people.

I believe Ireland should allow a controlled spread of the disease among people below 60 years while concentrating on the old and frail. That should really be intensive. It means testing staff and patients frequently and sending home anyone who works in such settings who has the slightest symptom of infection. We should be intense in the way we protect old and frail people in care homes.

There should be intensive contact tracing, identification of contacts, testing of contacts and probably home isolation of contacts. That is where we should concentrate our efforts to combat this virus - on the old and the frail. Among the age group of people below 60 years, we should allow a moderate or tolerable spread of the disease.

Ireland should keep its schools open. Sweden has done that all the time. It is interesting as an aside that Finland locked its schools when Sweden did not. A comparison was done about a month ago in respect of the number of school children infected in Sweden and Finland. There was no difference at all.

We should all realise - this is important - that the epidemic as well as the countermeasures hurt marginalised people most. The poor and marginalised will hurt most from the epidemic and lockdowns and whatever measures we propose.

One thing that has not been mentioned much is the threat to democracy raised by this epidemic. Strong people in many countries have assumed power that they did not have before and they might not yield it at the end of this. We should keep an eye on that.

Covid-19 is sometimes regarded as a mystical or supernatural disease. It is a viral respiratory infection. It has its own characteristics, but it is a respiratory viral infection and we have seen many of these. Covid-19 is not something completely new. Finally, I will offer a word of caution. Covid-19 has surprised us many times during the past seven or eight months and may do so again.

Chairman: I thank the professor. I ask him to please stay with us for the next couple of hours, if he would be so kind, to answer questions from the committee members. Professor McConkey will now give an opening statement. I ask him to limit it to five minutes. I will be ruthless in order to allow for time for questions and answers.

Dr. Samuel McConkey: My thanks to the committee for the invitation to appear. It is a privilege to be asked to speak to it.

I have been talking a good deal about this in Ireland since the middle or end of January. I have been saying really that something is happening here. Unfortunately, in recent weeks it has been clear to anyone without any brilliant mathematics or epidemiology that we are in the beginning of a second phase, wave or grip - whatever we wish to call it. At this point, three steps are needed. The first is to bring down the number of cases. If the number keeps rising like it has been and we keep doing what we have been doing, we will end up with increasing numbers in intensive care units and more death and disability. The only tool we have now is social and physical distancing. I propose that we should do this not only to flatten the curve or push it down, but to crush the curve completely into the ground. We need to do better than we did in April and May.

The second thing is to keep cases down. We have heard from Professor Giesecke about the need to use contact tracing, outbreak investigation, face-to-face contacts and genetic sequencing. We should use the power of our biotechnology industry in universities and add molecular epidemiology in order to understand how the virus is spreading when it is very low so that we can control, in a tight way, any possibility of it coming back. We had some good control in June but we have clearly let it out of control again.

The third aspect is to prevent reintroduction into Ireland. That involves control of incoming travellers. Ireland is one of the few countries in the world that kept its borders completely open to everyone during 2020. Of course, we have asked people to stay restricted at home for 14 days. We need to continue that, perhaps with home visits or testing or perhaps by shortening the duration of restrictions if people test negative. This has worked elsewhere, namely, in almost all of Australia. People may believe it has only worked for exceptional places like China and New Zealand. However, most of Australia has done this and it has worked. There is still an outbreak in Melbourne but it is coming under control. Similar measures have worked in South Korea, Japan, Malaysia, Vietnam, Greenland and Bermuda - I accept these countries have small populations but they have been effective at this. Many countries have succeeded in controlling this. We are not seeing these countries taking the view that they did it wrong and suggesting what they did was too restrictive. They have not suggested going like the USA, which has seen 12,000 extra deaths per week, or 200,000 deaths in total. The latter is 70 times the number of deaths that resulted from the events of 11 September 2001. That is not a choice people in countries that have controlled it well are calling for. Living with community transmission of

SARS-CoV-2 is like living with a large tiger in the house. It will come back and bite us. None of us would do that. As Dr. Giesecke said, those above the age of 60 are particularly susceptible but we are all one community. We live with and care for people over 60. We look after them in hospitals, nursing homes and our own homes. It is not possible to divide those over and under 60 into two separate bubbles, even though it sounds like a good idea in theory. It has not even been possible to keep influenza out of nursing homes. SARS-CoV-2 is even harder to keep out because of its presymptomatic and asymptomatic transmission.

If I am allowed, I would like to share my time with Dr. Tomás Ryan and keep some time for myself.

Chairman: Certainly. Does Dr. Ryan wish to comment?

Dr. Tomás Ryan: I will start by thanking the Chairman and the rest of the committee for the courtesy they have extended to me and my colleagues today and on other days of this committee's sittings. It is clear that Northern Ireland, Scotland and, increasingly, England and Wales are slowly coming around to a zero-Covid-19 policy. The Scottish First Minister, Ms Nicola Sturgeon, has said that all four UK Governments are committed to suppressing the virus to the lowest possible levels and keeping it there. That was said in the Scottish Parliament yesterday, 22 September. It has been argued that we should work within the structures of the Belfast Agreement, including the east-west structure, to share, co-ordinate and implement an all-island medium-term and long-term strategy to deal with Covid-19. Where possible we should pursue a two-island strategy, aimed at not just suppression but elimination. Moreover, we should work within the European Union and with the European Centre for Disease Prevention and Control to help all the member states reach that point piece by piece in order to reach what has been termed "Level 0" in areas free of Covid-19 and SARS-CoV-2 transmission.

We want to emphasise that we do not consider this goal an extreme position. We can think of zero-Covid-19 in a regional sense, including within the island of Ireland. We very much welcome the Government's new structure because it allows us to deal with things on a regional basis, moving towards level 0 from levels 3, 2 or 1. I can offer a few operational recommendations that we think would help with that. It seems clear that we need to learn from the best players in the world. In my view, they are Taiwan, South Korea and, to a certain extent, New Zealand. In Europe, we should look to the Scandinavian countries for liveable ways to keep transmission at as low a level as possible. Finland is the clear winner by all measures of economic activity, healthcare outcomes and infection rates. We should be paying close attention to what Finland is doing. We need more academic advice on our testing programme. We need to actively investigate rapid testing and how it can be adapted for use on the Irish population. Lastly, we need to actively incentivise the pharmaceutical and biotech sectors in Ireland to look for opportunities to mass-produce technologies that may be valuable, not just for us but for other countries.

Chairman: I thank Dr. Ryan.

Dr. Kirsten Schaffer: I thank the committee for the invitation to speak. I believe my notes have been circulated, as the committee might not be as familiar with me as an expert as it is with others who have been more prominent in the media. I am an infection prevention and control doctor and I have been working on the front line of this since March. I believe we should stop aiming for a Covid-19-free Ireland, or even for levels as low as at the end of the lockdown in July. I believe this is because Ireland is a European country with a land border with Northern Ireland. A significant proportion of the workforce in Ireland is young and international. I refer,

in particular, to healthcare workers and colleagues of mine, for example. The economic and social impact would be devastating.

We should keep community transmission low enough to allow hospitals to function at full capacity, protect the vulnerable and permit as much economic and social life as possible. To achieve this, we need two pillars. The first is optimal laboratory diagnostics and public health measures to contain the virus in the community. The second pillar is the need for a public willingness to adhere to the wearing of masks and social distancing. How do we achieve this? The first point relates to how to improve lab diagnostics and public health interventions. Looking at the serial interval of Covid-19, it is estimated to be somewhere between four and five days. This means that it takes four to five days for a person infected by an initial person to develop symptoms. So in four or five days, we must identify the person with the symptoms, run the Covid-19 test on that person, communicate the test result to the patient and public health authorities and we must do contact tracing. This is where we must improve. It is something we do not achieve consistently in the community now. It takes too long to get a test appointment and we just do not manage to get the test results out fast enough.

The second point is how to improve public adherence to social distancing measures. We must start by becoming more informative, transparent, logical and consistent. The main issue is that we need more Irish epidemiology information for the public and we must tell people where are the outbreaks. Do they come from family homes, weddings, restaurants or flights? We must be open and transparent so people can understand from where the recommendations come. We should tell the public what percentage of contact tracing we achieve. Speaking to public health colleagues, I know we achieve levels up to 90% outside Dublin. In Dublin, contact tracing can be more difficult and we might not achieve 90%. We should also tell the public that only approximately 50% of close contacts are willing to be tested at day seven. Why is this?

All the information should be open and transparent so the public has the information and can understand where the measures are coming from. Based on the epidemiology information we should advise logical rather than crude interventions. We should really base them on epidemiological information and outbreaks that have been identified.

Chairman: The first speakers from Sinn Féin will be sharing their ten minutes.

Deputy Rose Conway-Walsh: I thank the witnesses for their presentations. In the five minutes I have, I will confine my questions to nursing homes and third level institutions.

As we speak, there are staff in nursing homes around the country testing positive for this virus. Do the witnesses believe we can avoid a second wave of Covid-19 in nursing homes and what can we do to protect the older and frail people from dying of Covid-19 this time around? Staff are also asking me if it is possible to have immunity testing to identify staff and patients for whom it may be safe to work. Is this possible? Will Dr. McConkey address that question?

Dr. Samuel McConkey: Unfortunately, even in the past few weeks we have been seeing some small outbreaks in nursing homes and this is exactly the problem with having Covid-19 in our community. Inevitably, as young people go in, quite rightly, to work in nursing homes and hospitals, they can be shedding SARS-CoV-2 asymptomatically for one or two days before developing symptoms. Unfortunately, the idea of keeping the sick out does not work for this and testing people every two or three days is not logistically feasible if we are talking about all the healthcare and social care staff. We must keep community rates down . If they get up even as high as they are now in Ireland they will inevitably spread into nursing homes, causing

outbreaks. This is one of the main reasons I believe we cannot live with this.

On immunity testing, we can certainly test for antibodies but there is no definite correlation yet between those antibodies and protection. In other types of coronavirus, the antibodies do not last long. After three to six months or in some cases a few years, the antibodies disappear and do not work any more. We can test for antibodies but nobody should confuse that with immunity testing. Having antibodies in the blood means that a person has been exposed to that virus or something similar in the past but it does not necessarily confer protective immunity and prevent a person from getting infected or from transmitting it to other people. Unfortunately while immunity testing would be brilliant to have, I have not seen anything yet that does that.

Deputy Rose Conway-Walsh: What would Dr. McConkey's key advice to the Government be to stop the spread to nursing homes? He has referred to preventing or reducing the spread in the community but apart from that, is there anything specific we can do this time around to stop what happened in nursing homes during the first wave?

Dr. Samuel McConkey: We have not been able to keep influenza out of nursing homes over the years and I believe it will be impossible to prevent the re-entry of SARS-Cov-2 into nursing homes unless we control it radically in the community such that the risk of staff members contracting it is exceptionally low.

Dr. Kirsten Schaffer: I wish to comment, if I may. We now have a much better understanding of the transmission of SARS-Cov-2 in hospitals and nursing homes and therefore we have much better infection prevention and control measures in place to avoid transmission. In my hospital we had positive healthcare workers in recent weeks but as we have implemented universal infection prevention and control measures, we had no transmission from positive healthcare workers to patients. That is the crucial part here. We understand the transmission much better and we know what infection prevention and control measures we must put in place to avoid transmission. We have to look closely at outbreaks in nursing homes to understand why transmission is still happening. If we use masks, gowns and gloves and stress the importance of hand hygiene and if we advise people to stay home if they feel any symptoms then we should be able to control transmission at a certain level.

Deputy Rose Conway-Walsh: I will move on now to the third-level institutions. Dr. Ronan Glynn and others are telling us that Covid-19 is being disproportionately spread by younger people who are mainly asymptomatic, as was alluded to earlier. Today we heard about outbreaks in universities in Dundee and Liverpool, with 500 students in isolation in Dundee and 80 students and seven staff infected in Liverpool. Tens of thousands of students will be crisscrossing this country from Monday onwards to attend colleges in Dublin and elsewhere. Many of these young people will be living away from home for the first time. Is it realistic to expect them to adhere to the rules on and off campus to the same extent as they might do in their home environment? Have the witnesses any advice for the Government on the handling of Covid-19 in third level institutions? Will face-to-face teaching have to end, even on a temporary basis?

Dr. Tomás Ryan: Obviously the opening of third level institutions more or less coinciding with the reopening of what we call wet pubs in much of the country and the recent reopening of schools is going to pose a lot of challenges for how we manage the disease in the country. I have a conflict of interest in that I am a professional in a third level institution so everything I say on this must be taken in that context. We had a successful move to online education at the beginning of the pandemic. We know that many universities in Ireland, including Trinity College Dublin, are focusing on a blended model as much as possible and are reducing student

contact. There will not be any large lectures. There is planning for lectures involving smaller numbers and this will be reviewed as we go along.

A major challenge from the Irish perspective with respect to universities is that most of our students do not live on campus which is different from many other countries. There is also a tendency for all of our students to go to their home counties at the weekends. This does seem to pose very significant challenges to any regionalised strategy that we would have in Ireland on a county by county basis. That is my primary concern about how universities will effect how the Government plan works regardless of the end strategy or goal.

I think moving towards blanket testing in universities may help deal with this. There are some efforts towards doing this on a pilot basis at Trinity College Dublin but that will not be a panacea for the challenges we face.

Chairman: I thank Dr. Ryan. I apologise but I must cut him short.

Deputy Ruairí Ó Murchú: There is difficulty in that where there has not been clarity, this has sometimes been filled with spurious science so efforts like that of today are very important.

I raise the test, trace and isolate capacity and Dr. Ryan's remarks on rapid testing. We had a discussion on PCR testing and its possible weaknesses. Where does the science lie now and where do we need to go to build up capacity?

Dr. Tomás Ryan: I will begin and ask Dr. Schaffer to take it from there. Dr. Schaffer and I disagree on a zero Covid strategy but on the technical aspects of testing we are in complete agreement. The first thing to note on testing as we do it is that it is about information. Testing does not do anything itself, it is not a magical suit of armour against the virus, it is information that works for public health medicine. It works for contact tracing and for public health physicians. They have limited staff and a limit to the work that they can do. Looking at the most successful countries for test and trace infrastructure, South Korea is probably the model. It works with a total testing capacity which is about 25% of our total testing capacity *per capita*. That was enough for South Korea to crush its first curve without a lockdown and it was also enough for it to deal with the recent spike in infections. It is not so much about testing capacity as about the ability to quickly integrate that with the public health operation to crush outbreaks while there are still small numbers of cases. Our opportunity for doing that seems to have been in early August and it is clear that our system was not able to do that. Now, there is a need to either focus on restrictions or substantially increase testing capacity to the level of, say, what Denmark is doing now.

This is all about diagnostics. Screening is a very different topic which we can return to later, but Dr. Schaffer should continue answering the question.

Dr. Kirsten Schaffer: I fully agree with Dr. Ryan. Ireland's testing capacity has increased enormously in the last month. I agree that it is not a question of capacity so much as logistics around testing. For example, we had three scientists in the laboratory who had to stay home last week because they were waiting for tests for their children who are in school who had symptoms. One had to wait 30 hours and the other between 48 to 72 hours to get an appointment for the children to be tested. This is just too long. I think we have the testing capacity but we are not well organised around it. Rather than get an appointment to be tested, maybe we need walk-in clinics. The fast and efficient communication of test results is also crucial so that public health can take the necessary steps, as Dr. Ryan noted.

Chairman: Dr. Giesecke's introductory remarks referred to protecting nursing homes and elderly people. If Covid is widespread or at least spreading in the community, is it simply inevitable that it will make its way to older people and into nursing homes or is there a way to stop that happening?

Professor Johan Giesecke: It is inevitable. It will spread but we should try to keep that spread as low as possible and concentrate much of what we are doing on that area. In Sweden the majority of people who died were in care homes. We must continue with frequent testing and contact tracing and be very aggressive about keeping control of what is happening in care homes. That is a great deal of work and is not 100% useful, but it would bring down the number of deaths, which I would say is the main aim of our efforts.

Deputy Paul McAuliffe: I wish to put on record my thanks to all the public health experts who have contributed to the committee in recent months. When such people contribute to public debate, it is often really important. If Covid-19 is to be with us for a long period, our political system faces a challenge. If four economists were in front of us, they would all have different views, as do the witnesses before the committee today. The political system, and thus democracy, would dictate which course of action we would take. In my view, Ireland has taken a very balanced view. We have not gone for the zero-Covid strategy, although I do not think we are far from it, nor the open approach either. As politicians we all have to assess the advice that comes before us. Austerity, for example, is a way of reducing public debt but it has terrible consequences and often loses public support. If we were to pursue a zero-Covid strategy, would it be inevitable that public support would be lost and that there would be unintended consequences?

I might direct that question at Dr. Ryan or Dr. McConkey.

Dr. Samuel McConkey: I am happy to talk about that. Unfortunately, regions such as New York, Milan and Wuhan that were hit by this when they had no restrictions suffered not only significant healthcare problems but also huge economic damage. It is the case that much of the economic damage is inevitable due to the virus. Of course, the economic restrictions, especially on businesses such as cruise liners and those in the airline industry or the hospitality and tourism industry, have been very bad and have affected different parts of our economy differently. Some sectors I mentioned earlier, such as pharmaceuticals, are booming, as are supermarkets, delivery services and Internet shopping. It is very difficult to have a very divisive set of circumstances where some of us in the economy are doing fine while others are losing their jobs and suffering catastrophic loss of their wealth, assets and businesses. Trying to keep social cohesion in that K-shaped recovery, as was outlined in the *Financial Times*, is really difficult. Unless we can keep the co-ordinated action of 5 million voluntarily working together, we will not come through this successfully.

We are in a potentially socially fragmented, and politically fragmented, future. Trying to hold us together as one nation is difficult. Perhaps in some countries such as Sweden, there is greater trust in authority, in public health experts and in the government, but we in Ireland are basically independent folk. At least where I come from, in Monaghan, the Border area is full of people who, in their own head, believe they know everything and that they can do what they like, and many people will identify with that. Trying to get co-ordinated action is really challenging, as is balancing the economy. I have been saying since January that the economic impact of this would be huge. This is the greatest challenge, in my view, that the State has faced in 100 years, since the Civil War, which we are getting over only now. There is no doubt that the governance challenges here are still colossal and are something that nobody imagined dur-

ing the campaign for the February election.

Deputy Paul McAuliffe: I thank Dr. McConkey and turn to Dr. Schaffer. There has been an uptick in the 14-day rates of a number of European countries, yet the restrictions in those countries vary greatly in terms of what is permitted. The question many people are asking is why that 14-day rate has increased over the past two or three weeks. Is it a seasonal, weather factor or is it to do with the increased activity during holidays that might have happened in August? Why are we seeing the same pattern throughout Europe, despite differing restrictions?

Dr. Kirsten Schaffer: I can answer that from two sides because, as the Deputy will probably have noticed, I am German so I know a little about what is happening there too. As Deputy McAuliffe correctly stated, in a lot of European countries the rates have gone up in the past 14 days. This is mostly due to household parties, social gatherings and family get-togethers where people do not adhere to social distancing. That is why I think we have to be really careful as a society because for young people Covid-19 is quite an abstract term and they feel quite deprived of their social interactions. If we want buy-in from the whole of society to get through this difficult time, we really have to change our approach and become more open and transparent, because otherwise we will lose buy-in, especially from the younger generations because they have just had enough; they are tired of this. On the other side then we have the elderly and the vulnerable who are terrified. Society seems to be diverging into two directions here and that is why we really have to try to change tack a little bit to try to bring society together again. In answer to the question, as far as I can see the rising rate over the past 14 days is mostly due to gatherings, family gatherings and parties where people do not adhere to social distancing, and that is perhaps where we have to look closer at how we can deal with that.

Deputy Paul McAuliffe: I thank Dr. Schaffer.

Deputy Cathal Crowe: I wish to speak about rapid testing. My colleague spoke about the world of politics versus Covid versus economics. The one thing we as politicians often get caught up in is opinion polls where there is always a 3% margin of error. Is there any margin of error in the realm of science, given that with Covid testing we talk about Covid-negative and Covid-positive? In particular, what I am interested in is if we could move to rapid testing at airports both at the point of departure and arrival. If we could board a flight knowing or believing that passengers around us were Covid free, it would instil great confidence and people might start travelling internationally as opposed to just going to the neighbouring county again. Is there any margin of error in the Covid tests, both the test we have in Ireland and the tests in other countries? I do not know who to direct my question to, but perhaps Dr. Sam McConkey would be able to address the issue in the Irish context.

Dr. Samuel McConkey: My view is that the current test, the PCR test, is very similar to what is used all over the world. We are looking for the nucleic acid, the RNA, of the virus. It is not that we are doing a different thing. It is quality controlled and done in triplicate. The National Virus Reference Laboratory and Dr. Cillian De Gascun have set up a very good test quickly and then spread it around Ireland. That is the best we have. To do better than that would require a viral culture to be done and we do not have a lot of technology to do that in Ireland.

To reassure the Deputy, when we did that in hospitals and nursing homes during the outbreaks and sent home the people who were positive, and their contacts, that did control the horrible infection outbreaks we had in Ireland back in March and April, so it is good enough to control it and it tells us who is shedding the RNA of the virus. Sometimes people have tiny amounts and it could be just dead skeletons or the bones of the virus that are not infectious. If

there are tiny amounts it may not be infectious, but if there are large amounts, those people are infected and infectious. It can take three to five days for a test to show as positive, so if I am infected today it will not show up until it is incubated for a little while and then, typically, it lasts for seven to ten days. I feel it is all we have got and we have shown it is good enough.

As Dr. Schaffer mentioned, it is a challenge to get access to it for the right people very quickly and then to act on those results. I suggest it should all happen within 24 hours. When people identify with symptoms, they should call their GP, have a test scheduled, have the test run, which is only an hour or two, and then have the contact tracing done, whether it is through an app, by telephone calls or face to face on the local street. Then perhaps we could have a pop-up testing centre on the local street where all the neighbours and anyone the person has seen, such as the staff in the Spar shop where he or she bought that newspaper that morning, can all come and have their tests done within a day. We need a much quicker and more responsive system based at local level. That is what is going on in Germany, but I am open to correction from Dr. Schaffer on that. I think the PCR is the best we have.

Deputy Cathal Crowe: The term "zoonosis", whereby a disease passes from an animal to the human species, lingers in my mind from leaving certificate biology. This has happened with Covid, SARS and many other potent diseases. Many studies speak of reverse zoonosis with regard to Covid. Two dogs in Wuhan tested positive for Covid about eight months ago but this fact seems to have been entirely missed in the Irish discourse. We are now getting quite close to Hallowe'en, when Irish livestock is typically housed inside over the winter. During that time, animals all become more susceptible to disease. We were very good for chasing up foot and mouth disease. Are there shortcomings regarding any potential reverse zoonosis? We have had livestock outdoors-----

Chairman: Let us get the answer.

Deputy Cathal Crowe: The question-----

Chairman: The question is whether livestock is safe from Covid.

Deputy Cathal Crowe: I would like to finish my question, if the Chairman does not mind.

Chairman: There is not time. Does the Deputy want to get an answer or does he want to finish his question?

Deputy Cathal Crowe: I would love an answer. I would love to finish my own questions and get my own answers.

Dr. Kirsten Schaffer: I am definitely not an expert on zoonosis but I do not think we have to be concerned about Irish livestock becoming infected with Covid-19.

I will comment on the previous question. I fully agree that we can significantly improve diagnostics. A key feature of keeping our nursing homes safe is testing asymptomatic health-care workers when there is a nursing home case. The one thing we should highlight is that we now understand the transmission modes of the virus much better. Perhaps Professor Giesecke from Sweden can come in here as well. In March and April we did not use masks in nursing homes. We did not use the appropriate PPE in nursing homes and we did not test our nursing home healthcare workers enough. That is why we had these terrible outbreaks in the nursing homes. We now know how the virus is transmitted, we know we have to use masks in every institution we work in and we know we have to test asymptomatic healthcare workers when we

have a nursing home hospital case. The position in Sweden is probably similar. Sweden had bad nursing home outbreaks, but it was due to fact that it did not use the right PPE and did not test fast enough.

Professor Johan Giesecke: Yes, and it was not even available in the beginning. The stocks were not big enough.

Dr. Kirsten Schaffer: The situation is different now in that regard and we should discuss it as such.

Chairman: I thank Professor Giesecke and Dr. Schaffer. Who is speaking first from Fine Gael?

Deputy Colm Burke: I thank the witnesses for their presentations and for the work they are doing. I appreciate it. What dramatic changes have occurred in the management of nursing homes in Sweden? Professor Giesecke referred earlier to the fact that there were many deaths in care facilities. What dramatic changes have been made since and are they working? Second, Dr. Ryan referred to learning lessons from Finland. What is being done differently in Finland that we are not doing here and what could we change in order to achieve the same results? Third, I do not think we are getting the message across about the effects of someone having Covid. Dr. McConkey might deal with that. I know a number of people who contracted Covid at an early stage back in March or April. These are people in their 40s or 50s and they are now finding it difficult to get back to work. They do not have the energy and still feel unwell. I do not think we have sold that message. What evidence is there on that issue? Does Dr. McConkey think we need more messaging on the fact that Covid is not something that disappears in two weeks?

Professor Johan Giesecke: I can only echo what Dr. Schaffer said. Protective equipment is being used for stuff in care homes and there is frequent testing of asymptomatic people. There has been a sea change in the way people in care homes are being taken care of since March and April.

Chairman: What was the Deputy's next question?

Deputy Colm Burke: It was to Dr. Ryan, regarding Finland.

Dr. Tomás Ryan: I thank the Deputy for the question. I think it is obvious that we are more like European countries than Asian countries. Although we should learn from the best performing countries in Asia, looking around Europe also makes sense. Scandinavia seems to be one of the best performing areas of Europe. We pay a lot of attention to Sweden. Some of this is in the context of herd immunity although it does not seem that is Sweden's policy right now. The aim is to have a more livable situation in the long term with Covid-19 in an effort to reduce restrictions. Everybody here wants to reduce restrictions. That is the point of the zero Covid policy. However, when we compare Scandinavian countries against each other we see that the best performer by far is Finland. It has had the least number of deaths, the least number of infections both when they were flattening their curve and now when they are maintaining the flat curve. Sweden had about seven times as many deaths as Finland and Denmark while they were flattening their curve but there is no evidence of a large degree of immunity after that. Today Sweden, Norway and Finland are maintaining a relatively flat curve but Finland is definitely the best performer there now.

It is important to remember that the reasons countries are maintaining a flat curve are not

related to how they flattened their curve in the first place. Some countries may have flattened the curve by hard lockdown, some by soft lockdown and some by aggressive testing, tracing and isolation like in South Korea and Taiwan. How to maintain the curve is an entirely different story. Clearly Sweden, Norway and Finland are doing an excellent job at social distancing, physical distancing, hygiene etc. There is nothing to criticise there in terms of Sweden's response. I do criticise how they flattened the curve but that is another discussion. It seems to me that by any measure, including economic measures, Finland seems to be the best performing country in Scandinavia. I do admit that they are rightly quite worried that cases are starting to rise there also.

Dr. Samuel McConkey: I think the question about long-term Covid symptoms was directed at me. I am probably a rather conservative, nerdy, scientific type of doctor and I like to see the evidence for long-term lung scarring, long-term brain effects, long-term cardiac, respiratory and other damage. We are running a study in Beaumont conducting long-term Covid follow-up of the several hundred patients we looked after. Distinguishing what is due to being very sick in intensive care and can happen after any serious life-threatening infection from Covid-specific damage can be challenging. Certainly in the five or six media things I do every day I have not been going on about long-term Covid, because I am not confident yet as to how much unique difference there is and I do not know the frequencies. It is an evolving story as to how people will be one or five years after Covid. We do not know that because nobody has been one or five years after Covid yet. I am intrinsically not a PR messaging person. I am more cautious and trying to be fact-based as a scientist.

Deputy Colm Burke: Does Professor McConkey think that we need to advise people that there may be long-term effects?

Dr. Samuel McConkey: I think that is certainly circulating widely on social media and also has been out there, so that is certainly part of the media message, but I accept that I personally have not been pushing it.

On the area of transmission in nursing homes, I would add that while our nursing homes in Ireland have mostly single rooms except for married couples, unfortunately many of our hospitals in Ireland are all on six-bedded rooms and it is phenomenally difficult to prevent staff who are caring for people in a six-bedded room from caring for two people in beds beside each other. I am sorry to say our hospital infrastructure in Ireland is not fit for purpose for a pandemic of a respiratory virus with droplet, airborne transmission because many of the beds are within 2 m of each other. There is plenty we can do to prevent spread in nursing homes but that will not work in hospitals.

Chairman: I am loath to stop Professor McConkey. I call Deputy O'Dowd.

Deputy Fergus O'Dowd: As Chairman of the Oireachtas Joint Committee on the Implementation of the Good Friday Agreement, I very much support the proposals from Professor McConkey and Professor Ryan on increased co-operation between North and South on Covid and the east-west connection. I will work my hardest with my committee to follow that up. I live in a Border county, from the River Boyne in Drogheda to the Border at Carlingford Lough. We are under serious pressure in County Louth. Outside of County Dublin, we have the highest rate in the country. Our worries are serious and concerning but within the county, there are districts such as Ardee with a population of 25,000 that has fewer than five cases per 100,000, and in the north near the Border there is the district of Dundalk and Carlingford with a population of 25,000 and 136 cases per 100,000. How do we deal with that? What is the appropriate ac-

tion to take if we are going to shut up a whole county when there is a huge population that has a serious problem and there is also a population that does not? Can the witnesses advise on that?

Dr. Kirsten Schaffer: That is a valuable question. We have to start off by getting more epidemiology information. We have to find out where the transmission is coming from. We just do not know if it is down to household parties or where the main transmission is taking place. We are lacking important information to then develop targeted interventions. We are very crude in our actions at the moment. I agree with the Government's plan to have different levels of restrictions but our restrictions are crude because we have no good epidemiology information to say what restrictions work and what restrictions are not necessary. This is where the big gap is and we have to find out more so we can then tell everybody what we have to do to try to bring the numbers down again.

Chairman: Does anybody else wish to come in?

Dr. Tomás Ryan: I want to come in on that point. This partly speaks to a question of social cohesion and on how we get people to co-operate and follow any strategy. It is clear that in Ireland we do not want a finger-pointing culture and we also do not want a heavy law enforcement culture. We are still coming out of a phase of the pandemic where it feels like different sectors of society have been pitted against each other in what can open up and what can close down. The benefit of a regional approach is that it allows a hyperlocalistic situation. We need more information on local epidemiology and awareness but we need local communities working together as a whole to drive cases down to get to level 2 or level 1 and maybe level zero and to have the rewards for every industry in that community with schools opening first and then everything else opening up together. We can then see a lot more positive community spirit and activism towards having a situation that is agreeable for everyone. The way to manage Covid-19 in Dublin is not the same way to manage it in Kerry. They are not the same problems and they need to be dealt with on a local basis.

Chairman: I want to bring in Professor Giesecke.

Professor Johan Giesecke: I agree. In the future, there will be much fewer national restrictions and action and much more local restrictions and action. Two other witnesses have said to take local action, to start the epidemiology locally and to be much more prepared to change that in small places than in the whole country. The national restrictions have been poor-lived at times. The work should be much more local in the future.

Dr. Samuel McConkey: One of the challenges with local restrictions is it may involve local restrictions of travel from Ardee to Dundalk and that might be difficult to enforce and unpopular.

Deputy Fergus O'Dowd: On that point, this area is on the Border and it is a Border issue as well because it is where all of the tourists go and it seems to be a serious problem there.

Chairman: The next speaker is Deputy Ó Cathasaigh.

Deputy Marc Ó Cathasaigh: The Chairman caught me off my guard there.

Chairman: I can come back to you in a minute if you want.

Deputy Marc Ó Cathasaigh: No, it is fine. We have had a good level of public buy-in. The Irish public worked hard at the initial flattening of the curve. In common with other areas

across Europe and the world, we are beginning to suffer from lockdown fatigue, where it is becoming more difficult to sustain the level of lockdown we are in. In that regard, I am interested in what Dr. Schaffer, in particular, was talking about in terms of getting more information into the communities, regionalising our efforts in that respect and making the information more granular so that people know exactly where the outbreaks are to get that public buy-in on a local level. We do community buy-in well in Ireland. It is something that is built into our psyche. I want to raise two issues that I have mentioned at this committee previously. I would like to hear a little more on testing techniques which are less about showing us where Covid-19 is and more about showing us where it is not. I have read a couple of studies about pool testing, that is, testing large volumes in one batch which seems to me would be particularly useful for flights or in meat factories, for example, where we have had outbreaks. I am also interested in effluent or waste water testing. If such testing is accurate, and this is what I would like the experts to speak to, it may be possible to find out on a town-by-town basis where Covid is not. That might allow us, on a much more granular or regionalised basis, to move to level one or level zero, as spoken about by Dr. Ryan. I ask the experts to comment on whether pool testing or effluent testing should be tools in our arsenal in the fight against the spread of Covid-19.

Dr. Samuel McConkey: My view is that they are both really good ideas. There are several teams, including some in RCSI, trying to validate whether pool testing is accurate enough to be useful. It may be useful for the HIQA efficacy assessment group to do a worldwide search of the data on both of those.

Chairman: Does anybody else want to contribute on this issue? Is there anything like that in Sweden or Germany?

Professor Johan Giesecke: In Sweden such testing is not happening on a regular basis.

Dr. Kirsten Schaffer: I am not aware of whether such testing is used on a regular basis in Germany but as mentioned, there is some data published on pool testing and it seems to be working well. The idea is to increase capacity. Many specimens are pooled together and if a positive result comes back, it is then necessary to go back to the individual specimens to find out who was positive out of the pool. That is the principle behind pooled testing and it is definitely something that should be discussed and considered in order to increase testing capacity.

Deputy Marc Ó Cathasaigh: This is something I have raised with the Minister for Health and I would certainly like to see it investigated.

I ask the witnesses to comment on the success or otherwise of the Covid-19 tracing app. We have had huge public buy-in, with well over 1 million people having downloaded the app onto their phones. I ask the experts, particularly Dr. Ryan and Dr. McConkey, to comment on how useful it has been in speeding up the tracing process. Is it working well or is there something we need to work on with it?

Dr. Tomás Ryan: The app itself is an excellent piece of software. It is one of the success stories of Ireland's pandemic response but it is not being used widely enough. Studies early on in the pandemic showed that electronic contact tracing, which is a very powerful tool for supporting contact tracers, is most effective when most of the population is carrying it but we just do not have that at the moment. Dr. McConkey has proposed many times that we should find ways of giving smart phones to everyone in the population who does not have access to the app. If everyone was carrying this app actively, it would make a huge difference.

Dr. Samuel McConkey: The uptake at present is approximately 1.7 or 1.9 million, which is only about 34% of the population. The modelling suggests that we need about 60% or more to get a really good impact. It does not work on old iPhones like the iPhone 5 and it does not work on older android devices. It only works on more modern phones. There are older people, like my mother, who still have Nokia block phones and it definitely does not work on them.

Deputy Marc Ó Cathasaigh: It is obviously a job of work for us, as politicians, to push the public awareness around the app.

Chairman: The next speaker is Deputy Duncan Smith.

Deputy Duncan Smith: I thank the witnesses for their attendance. While this is not the panel we had expected, it has been very interesting discussion. My first question is for Dr. Ryan. We have spent an awful lot of time on the floor of the House and at this committee debating our testing capacity. The HSE has said that it has the capacity to conduct 100,000 tests per week. Dr. Ryan said that South Korea has 25% less capacity than us but was successful in not only flattening but crushing the curve. That suggests that our processes around this are highly inefficient. Could the witnesses compare and contrast what is happening on this here and in South Korea?

Dr. Tomás Ryan: South Korea had 75% less testing capacity. What I said was that it has 25% of our current testing capacity, and that has been the case throughout the pandemic. South Korea was very rapid in responding early on. It had experience of SARS which is why it was able to take the bull by the horns. We could not have been expected to respond that way in the spring. However, arguably we could have been expected to make preparations to be ready to respond like that by August or September. Unfortunately we were not.

It is not just about capacity - our testing capacity is quite good by European standards and is greater than that in South Korea - but about how quickly that can be implemented with the public health infrastructure. One ingredient in South Korea's success is not just speed but that the number of cases never got very high. When we commented from the outside that South Korea was having a spike, it was at a level that would not have registered here. They crush these things very early and that is the crucial formula.

My concern now, and that of many colleagues, is that we have arrived at a situation where although our testing capacity is quite healthy, even if we did speed it up it might not be sufficient for us to suppress the virus from here, that is going from where we are to level 2 or 1, unless we combine it with restrictions. Theoretically, if the testing capacity is really increased it can help, but testing capacity works for public health medicine. There is a limiting factor here, unless one moves towards testing everyone in the population, in which case we would be discussing something very different.

Deputy Duncan Smith: I wish to ask the panel, and particularly those based here, to set out their views on the five-level framework on turning the tide on Covid-19, which was published last week. How effective might this be in improving social cohesion and buy-in into turning it around?

Dr. Samuel McConkey: It is really important that the public has some sight of where we are going and what to expect and is given a framework somewhat like the phased reopening framework introduced in April, with phases 1 to 5 reopening every three weeks. We need some guidance. If everything is willy-nilly and changing day-by-day in unpredictable ways, people

get really lost whereas with a five-level framework people can realise that if the numbers continue to increase, it is somewhat inevitable that we will go up the levels. If the numbers come down dramatically, we will come down the levels. Hopefully they will be applied by county or by local area rather than nationally. People should find both the future visibility - the idea that this is linked to how our epidemic is doing - and the fact that it is done by county level helpful. We could have discussions about the individual parts of it, which would be a different issue, but the general idea of having a framework is vitally important for all of us and I welcome it.

Dr. Kirsten Schaffer: I agree. It is valuable to have a framework and to work within it. As I said earlier, we should be more detailed in the restrictions we advise depending on the epidemiological information we have, but the idea of a framework and a level of community transmission that we must try to never get above is very important.

Deputy Róisín Shortall: I thank the guests for attending the committee. I will begin with a question for Professor Giesecke and Dr. Schaffer. I gather from what they have said that they generally support a herd immunity-type approach. Could they spell out exactly what that strategy would entail for those who are over 60 years of age or are medically compromised? Obviously, a large number of people have disabilities and other serious underlying conditions. What would Professor Giesecke do about that large part of the population?

Professor Johan Giesecke: Sweden never had herd immunity as a goal. By concentrating on protecting the old and vulnerable, we could allow a tolerable level of spread among the population. We could reach herd immunity even if that was not the goal. It was a by-product of the goal.

(Interruptions).

Chairman: The sound is quite bad.

Professor Johan Giesecke: I will get closer to the microphone. I said that Sweden never had herd immunity as a goal or strategy, but the strategy of protecting the old and vulnerable while allowing some spread in the population has had the by-product of herd immunity. I do not agree with the zero-Covid approach. I do not believe it is possible or feasible as a solution. We would need to do it in each country in the world. Otherwise, it cannot work. New Zealand managed to go without any cases for 102 days and then had quite an outbreak.

Deputy Róisín Shortall: With all due respect, I am asking Professor Giesecke to outline his case. He talked about the old and vulnerable. It has been suggested that there would need to be shielding of some kind for people over 60 years and people who are medically compromised. What would that entail for that large proportion of the population?

(Interruptions).

Chairman: There is considerable interference on the line. Will the other three witnesses temporarily mute their microphones, please? That might be the problem. Go ahead, Professor Giesecke. Deputy Shortall was asking what it means in concrete terms for the people who are over 60 years or medically compromised.

Professor Johan Giesecke: We would need to intensify the work in the care homes with contact tracing and frequent testing of clients or patients and staff. The number of deaths was

highest, in Sweden at least, from these kinds of homes.

Deputy Róisín Shortall: I wish to cut across as my time is short. A tiny proportion of people over 60 years are in care homes. What would this entail for the remainder of the population over 60 who are living full lives? They are working and living the same as everyone else. What would it entail for them?

Professor Johan Giesecke: Even more than others, they should adhere to the rules about minimising contact, keeping distance, washing hands, staying at home if they feel ill and so on. They should do that even more than the rest of the population.

Dr. Kirsten Schaffer: I think the committee may have misunderstood me. I am definitely not someone who advocates herd immunity, because the price we would pay is far too high. What I said in my opening statement was that I believe we should keep community transmission low enough to allow hospitals to function and protect the vulnerable. As Professor Giesecke said, we now know far more about how the virus is transmitted, so we can give better advice for the elderly and vulnerable on how they can protect each other. This is really around social distancing, wearing masks, staying away from large gatherings and being careful when coming in contact with other people. This is how we should try to protect them. I definitely would not go down the route of herd immunity.

Dr. Tomás Ryan: I wish to come in briefly. I do not think anyone here is really advocating for herd immunity because of what it would cost. There was a question about shielding. It needs to be pointed out that, notwithstanding the calamities that occurred within nursing homes in countries like Sweden, Ireland and Canada, no country in the world has succeeded in shielding the elderly and vulnerable. We have between 1 million and 1.5 million people in that category in Ireland. They have to interact with everyone else. If one looks at countries that have ostensibly attempted shielding, it has led to failure. If one looks at successful countries such as South Korea or Taiwan, they have never had a policy of shielding, yet they have not had a high death rate among the elderly. If one reduces the virus among the young population, by which I mean people aged 20 to 50, then one reduces it for everyone. The elderly and vulnerable then live in a safe environment. That can be consistent with a suppression scenario, as Professor Schaffer is advocating. I think it is best served by an elimination scenario. It is not served by herd immunity or by what we currently have, which is reactive mitigation.

Deputy Róisín Shortall: I would like to ask Dr. Ryan or Professor McConkey about the near-zero Covid approach they are advocating. The difficulty which is raised by many people in opposition to this approach is what we do about aviation generally. How close are we to being in a position where we can have fast turnaround testing and address that issue so that it does not mean closing down our airports and ports?

Dr. Tomás Ryan: Even with the standard PCR testing technology, it is possible to use that in a travel framework. Ideally, one has people being tested two or three days before they travel from their country of origin and being asked to self-isolate in that time. Being tested for arrival would mean waiting for hours at the airport, as is being done in Vienna, Iceland and other places, then self-isolating for a few days on arrival, then being tested again. That would be a robust way to screen people. It is logistically cumbersome but my view is that it is a worthwhile investment. Whatever amount of money we spend on testing is a worthwhile investment in the current climate.

We need to more actively pursue investment in rapid testing technologies in Ireland. HIQA

does an excellent job but we need a dedicated scientific advisory team to look at this in a much more aggressive way. Rapid testing, including antigen testing and loop-mediated isothermal amplification, LAMP, based testing, will provide a much more efficient way to deal with travel screening in the future.

Deputy Róisín Shortall: How close are we to having those testing systems available?

Dr. Tomás Ryan: It depends on what degree of specificity and sensitivity one is willing to tolerate. When one is doing travel testing, it is not diagnostics, it is screening. Regarding commercially available systems, the main limiting factor is availability of kits and whether one can set up enough for it to be feasible and sustainable. That is rapidly moving, which is why I suggested earlier that we need to incentivise the manufacturing of this type of technology in Ireland.

Chairman: I have a quick follow-up question. Would that testing and isolation regime that Dr. Ryan described equally have to be applied to those crossing the border in the absence of it being applied to those arriving in the ports or airports of Northern Ireland from the UK mainland?

Dr. Tomás Ryan: I do not see that happening. My view with respect to Northern Ireland is that we cannot treat it with any greater degree of stringency than we treat different counties in Ireland. If there are travel restrictions between Dublin and Kerry, then it is legitimate to have the same degree of restrictions between northern and southern Ireland, because it is a local issue, not a national issue. I do not see us having testing to go between Dublin and Kerry, and therefore I do not think it will happen to go between northern and southern Ireland. The solution is to go for an all-Ireland approach with the co-operation of Stormont and local communities in Northern Ireland.

Chairman: Absolutely. That requires them to have a testing and isolation regime in place between Northern Ireland and the UK mainland, does it not?

Dr. Tomás Ryan: Essentially, yes.

Dr. Kirsten Schaffer: Can I make a quick comment?

Chairman: Yes, please.

Dr. Kirsten Schaffer: There are significant precautions related to aviation and travel. To my knowledge, having looked at epidemiology data since mandatory masks were introduced on aeroplanes, there have only been small numbers of outbreaks associated with flights. I contacted public health officials in Dublin yesterday and they told me that they are not aware of outbreaks associated with flights, because masks are mandatory. We must have another discussion about travelling. It does not necessarily seem to be the flights that are the risk factor but more so what people do on holiday. If they go to bars and nightclubs when they are in Greece or somewhere then, yes, these are high-risk areas. If somebody travels to Italy, Greece or somewhere else to get some sun yet adhere to social distancing and wear masks, including on the plane, then the risk of acquiring Covid-19 could be lower than attending a house party in Ireland. That is why I must say that we must closely consider whether it makes sense to have a green list or instead have a red list where we flag countries that have high community transmission but actively follow-up with isolation and testing for travellers who come back from these countries. If we had the latter maybe we would get more buy-in from the population.

Deputy Richard Boyd Barrett: Do the witnesses think it is important for us to debate the strategy? The public are losing confidence and things are not going in the right direction. I do not think anybody could argue that things are going in the right direction at the moment. Notwithstanding differences of opinion, how important is it for us to have this debate? Even at our own committee, the Chair and I were very keen to have this discussion this morning but a number of committee members believed that we should not have the discussion at all because it might undermine the Government's new plan. I would like the witnesses to comment. I believe that we need an open debate; we do not need the political management of information and evidence, and we should not be afraid of openly debating the various strategies in front of the public in a very open way.

Dr. Tomás Ryan: I welcome what this committee is doing because it allows a diversity of voices to be heard. I would not use the word "debate". We need a discussion in Ireland on what strategy we want to pursue.

With respect to science, which is a view echoed earlier by one of the Deputy's colleagues, there is the science aspect of what we know and what we do not know, which is very important, but then there is the scientific advice versus what we can do. Then it is a question of what we want to do and how science can guide us to doing that. It is not a scientific question in terms of whether we can do zero Covid or do suppression; it is a political question.

In my view we need to open up this debate with the public in a thorough fashion and there is room for something like a Citizens' Assembly to discuss strategies to deal with Covid-19 in Ireland.

Dr. Samuel McConkey: I very much welcome, not just the idea of a strategy, but the idea of a three, five and seven-year plan because this is not a problem that go away in a month. As Professor Giesecke introduced earlier, this is a medium and long-term problem that requires community engagement, buy-in and support from all of the people in Ireland for a strategy to work over three, five or seven years. This is not a short-term little problem that will just go away in three months. We are experiencing the biggest pandemic in 100 years so we really need a strategic approach that has with a long vision and not adopt the reactive approach of this happened yesterday and, therefore, we will do that tomorrow.

Dr. Kirsten Schaffer: I agree with Dr. Ryan and Dr. McConkey that it is very important to have an open debate, which is what has been missing so far. The debate needs to be based on facts and on what we have learned about the virus so we can make a plan going forward into the future. A debate is the only way we can get more public engagement on a strategy.

Deputy Richard Boyd Barrett: It is a pity we only have a short time to discuss the last point. We need to have more of these discussions but that is for another day and we will talk to the committees here about that.

Earlier Dr. Schaffer said that there is evidence that social gatherings, house parties and so on had contributed to the current situation. She may have information that we do not and this is part of the problem. People have also gone back to work. How do we know when it is stated that there is a high rate of infection among people aged under 40 years that it is due to attending parties or work? I am not convinced. I am not saying that it is or is not and I just do not know. We are flying blind and I do not know whether the public health authorities know this information but will not tell us or, even worse, do not know. I would like the witnesses to comment on that.

Notwithstanding the differences in opinion between Dr. Giesecke, Dr. Ryan and Professor McConkey, there does seem to be agreement that we could not possibly have enough testing, that the more testing we have, the better. Would mass screening of the population be possible if there was the political will to do it, in the same way that we have essentially eradicated certain diseases from the cattle herd, for example, which is a bit bigger than the population of this country? While it would be a big infrastructural investment and so on, if we knew where the virus was and with the pooling of testing, could it work if we did mass testing of the population, identified where the virus was and went after it?

Dr. Kirsten Schaffer: I would like to reply quickly to this. I actually do not know any more than the committee does, because the information about where the cases originate is not available. I rang public health yesterday to inform myself more and to find out what the situation is at the moment. Currently, when a person is diagnosed with Covid-19, public health will ask him or her about the contacts that person has had in the preceding 48 hours. It will not ask where the individual thinks he or she has acquired the infection. It does not ask whether that person has been to a restaurant or attended a house party. It does not have that information and neither do I.

However, it is crucial that we start trying to collect such information so we can show the data and use them to state the reasons, for example, house parties with more than ten people attending are forbidden, and if it happens, then the Garda will be called and the house parties will be shut down. We need some data to argue with, and currently they are not there. I know from Germany, because such data are collected there, that increasing rates there are strongly associated with house parties and family gatherings, where people congregate and do not adhere to social distancing rules.

Second, a quick comment on mass testing, I do not think that is an option or an answer, because even at the moment, we have difficulties communicating test results in an efficient and timely manner. Even at the moment, we only test around 50% of close contacts at day seven, so I think we should focus on trying to improve our current strategy first and speed up our current identification and contact tracing of infected individuals before thinking about mass testing.

Dr. Tomás Ryan: If I could just come in on mass testing, I agree that we cannot expect our current test-trace-isolation infrastructure to meet that type of goal, but the idea of testing everyone in the population was originally promoted on an international basis by Paul Romer, a Nobel Prize winner for economics. It was proposed to the Cabinet in April by the Chief Scientific Adviser in Ireland, Professor Mark Ferguson, that using conventional technology with pooled testing, we could test everyone in Ireland every two weeks as a way of getting the pandemic under control. Is that possible? It is a huge logistical undertaking, and it is not diagnostics, it is screening, so there are different issues with false positives. False positives would be a cost of this type of approach, but it would be a liveable cost.

It would require a huge degree of effort and the buy-in and use of the Department of Defence and the Department of Agriculture, Food and the Marine, because it would require a lot of labs, a lot of people doing the footwork, and courier work to do with delivering saliva samples, etc. This has been trialled in the UK in particular cities, and it has shown that it can work from a logistical perspective. In Denmark, they tested everyone in the Faroe Islands repeatedly, which is a population of around 50,000 people, and now the Faroe Islands has zero Covid. In a population such as that of Ireland, testing everyone is something that perhaps we should be looking at, but obviously it will become less intimidating from a logistical perspective as new, more rapid and cheaper testing technology comes online.

Deputy Matt Shanahan: I thank the Chair and the witnesses this morning for their candid comments, which are welcome. Dr. Schaffer spoke about the new learnings in nursing homes and how the implementation of new infection protocols and the additional use of PPE were proving very successful. Is that a strategy we can continue to use in the context of nursing homes? Would it give us almost 100% protection against community infection in nursing homes?

Dr. Kirsten Schaffer: We would never be able to achieve 100% protection but it is really important to highlight that the position in respect of nursing homes now is totally different from what it was in March and April. We now test for asymptomatic healthcare workers and we use universal personal protective equipment, including universal mask use. We are in a much better position to try to keep Covid-19 at least at bay in nursing homes, if not completely out of them. Even if there is an infected healthcare worker, as long as he or she adheres to infection prevention and control measures, it would be very unlikely for the virus to be transmitted to a resident. It is a much better position but we cannot say that 100% infection prevention can be achieved. That is not possible.

Deputy Matt Shanahan: I have a question for all the witnesses. Is the perfect the enemy of the good? We have been speaking about the need for rapid testing and a number of rapid tests are starting to become available. I have given information to NPHET in respect of rapid testing with a basis in antigen testing. There does not seem to be an appetite to implement something where a test could be turned around in 20 minutes. It is about time we started looking at deploying some of these technologies to try to get on top of the rate of community transmission.

Dr. Kirsten Schaffer: I agree that there is an indication for antigen testing as well but we must be aware of the limitations of our tests. These rapid antigen tests are very good at detecting cases when there is a very high viral load. The antigen test is quite sensitive in detecting such cases. However, they are not as good at detecting cases in individuals who might have a low viral load. We must know when we would want to use the antigen test. There are scenarios in which we could use the antigen test as a screening test to determine if somebody is infected and has a high viral load. It is definitely something that we could consider incorporating into our testing strategy.

Dr. Samuel McConkey: The data we get from the Department of Health indicates six outbreaks in nursing homes since the middle of August. We do not know exactly how big each of those was or whether the outbreak comprised staff, patients or residents. We do not know the outcomes. It has been the case that there have been outbreaks, meaning that at least two people had infections and were linked to a nursing home.

As we know there have also been outbreaks linked with workplaces. We have been discussing private homes and nursing homes but workplaces must also be made secure and safe so people can work there. We have not done that well. The housing and accommodation for some of the staff is cramped and crowded in the likes of hostels. The transport to work has been by bus and so on. This has not been the case just in Ireland. We have seen similar scenarios in Singapore, North America and in Northern Ireland in Cullybackey. The social conditions and lack of stable contracts for people in the workforce, which means they are unable to take off a day because their noses are running, cause people to go to work when they are not well because they will lose money.

We really need a robust legislative approach to indicate that our nation is not happy to tolerate zero-hour contract or gig economy conditions, which lead people to live in crowded hostels

rather than in groups of three to five. We are now at this seven months and employer behaviour has not changed. We really need a legislative approach.

Dr. Tomás Ryan: I will come back to mass testing. I do not say it as a criticism to anybody involved but we do not currently have a decision-making structure that can comprehend the investment in mass testing. NPHET looks at it from the perspective of diagnostics. Public health is highly conservative in how it views testing. None of the new testing technologies will ever be as rigorous as the standardised testing that we do currently. That is a problem with decision-making and should be taken on board. HIQA is thorough and rigorous. It is also a desk-based research organisation. HIQA will assess the success of these technologies in other countries but will not necessarily interpret the context of these tests, where they were developed or how quickly they can be made more efficacious. What is missing from the entire situation is a scientific advisory committee that closely monitors how we can assess the current state of mass testing in the world and how we can employ it rapidly in Ireland.

Many experts in Ireland are working on this particular topic. The chief scientific adviser is essentially sitting on a committee that was supportive of the research advisory group ancillary to NPHET. In my view, there has not been enough scientific input into these kinds of questions. If that was to change, we would have a better way of looking at this.

Chairman: I am sorry to have to cut you short again, Dr. Ryan. My thanks to Deputy Shanahan as well. I ask the three remaining speakers, who should have ten minutes each, to limit themselves to eight minutes so that we can conclude on time. The first speaker is Deputy O'Rourke. My thanks to Deputies for their understanding.

Deputy Darren O'Rourke: I will move quickly into questions for Dr. McConkey. I am interested in samples that are tested. We get results back stating the virus is "not detected". Is there a result stating there is insufficient sample? I want to know more about sample quality. I know from my experience in laboratories in testing solid tumours that we can identify if a tumour is present. Then we can run it or amplify it and we can see genetic material. Does an "insufficient sample" result ever come back?

Dr. Samuel McConkey: Yes, that is the case. Unfortunately, sometimes the test assay may not work. The test may need to be repeated because the test controls do not run. Occasionally, we have to repeat the test. Quality control is built into every assay. If they do not run, then we have to repeat the test. What comes back is not really a test result. We may simply have to repeat it.

Deputy Darren O'Rourke: Is it correct to say they are separate things? One is a process failure. If the controls and the process run well but the sample is empty, for example, will it return an "insufficient sample" result?

Dr. Samuel McConkey: We have looked at this. We published a study on this at Beaumont Hospital. Ear, nose and throat surgeons looked at how well the swabs were being done. The best swabs are taken from bronchoalveolar lavage, which is lung fluid that is quite invasive. The second best is nasopharyngeal swabs, which have to go right back to the back of the nasopharynx and tickle the back of the nose. Committee members may have seen me do that to Claire Byrne live on television, but I did not really go into her nose too much because she told me she did not want any bleeding. There is a one in 50 chance of bleeding and bleeding is obviously not good on live television. A lot of folk maybe do not go in far enough and only tickle the front of the nose. We used a mannequin for ear, nose and throat surgery to assess how well

our swabbers swab the back of the nose. Most do a good job but some do not. Training for the swabbers is essential. We use an oropharyngeal swab for children. It is far less invasive and more like the throat swab used when we get a sore throat. That is not quite as good but it is obviously far more acceptable. It is the case that some swabs are not adequate.

Deputy Darren O'Rourke: My follow-up question is about the sample integrity in the swab. How long is a sample viable? I am mindful that some people are getting swabs taken and maybe have to wait for a couple of days before the sample is analysed. Do we know how long the samples are viable?

Dr. Samuel McConkey: The ribonucleic acid is in a stabilising medium and will be relatively stable. In my view, delay in the processing is not so much a problem with degradation of the sample. The problem is that we are not doing contact tracing and isolation of the contacts. We fail completely to use that test properly if we have a couple of days of delay.

Deputy Darren O'Rourke: Will Dr. McConkey estimate for how many days the sample would be viable and its integrity maintained in the swab?

Dr. Samuel McConkey: It depends on the storage conditions. It could last for many weeks if it was in a fridge. The storage of samples is not an issue, the public health service failure is a much bigger issue. Any result is meaningless two weeks later because one cannot isolate the contacts who have already gone on and spread it to others.

Deputy Darren O'Rourke: We have had much discussion on the testing strategy. Talk has shifted from 100,000 tests a week, the criteria were extended too much and the focus shifted from certain risk groups to others. For example, last week we took focus away from meat plants to test my two and a half year old who was very low risk . If the witnesses were to design a testing strategy for Ireland, what would it look like? Dr. McConkey might begin.

Dr. Samuel McConkey: The most important groups are those such as healthcare workers and those who work in nursing homes to ensure they are not bringing it into vulnerable groups. Second is symptomatic people, those who have the classic signs of Covid, who I hope would be tested quickly. We could take a 14 day travel history of where they have been, ascertain if they had been to the shop to buy the paper and met someone there, in which case that person can be isolated. We can proceed by testing symptomatic people and extending testing out to workers in other industries where it is known there has been a lot of spread.

When there is an outbreak in a school, hospital or elsewhere, one should test a lot of staff, not necessarily those who are immediate contacts but second and third degree contacts. When we have done that we have discovered quite a few are positive. As the outward spread and circle is tested, like the layers of an onion, one finds more and more people who can be encouraged to stay at home and isolate and their contacts can be traced.

Deputy Darren O'Rourke: Will Dr. Ryan also comment on the testing strategy and refer to the Government's plan for living with Covid and its commitment to recruit medical scientists, contact tracers and people for taking swabs? Is it sufficient or comprehensive enough?

Dr. Tomás Ryan: I will give a brief answer. I am conscious that Dr. Giesecke has been extremely courteous and he is coming in from Sweden. He has had his hand up for some time. As I noted earlier, testing works for public health but we need to move to a find, test, trace, isolate system rather than test, trace, isolate. We need to aggressively seek out second and third degree contacts if our testing is to suppress the virus in the population. We also need to test vulnerable

populations. We need sentinel pool testing in places such as schools and we definitely need airport testing. Then we need a framework for potentially setting up mass testing. They are all very different things. One cannot expect the same lab to be doing all these things; there has to be a framework that focuses on them in a consistent way.

Deputy Darren O'Rourke: What would airport testing look like?

Dr. Tomás Ryan: We discussed that a little earlier. With current technology it would mean testing people on arrival at the airport, then travellers would have to wait in a lounge for six hours or more and then isolate for a few days and be tested again, and ideally tested a few days before travel. Ideally then it is a three-shot test with the aim of reducing quarantine to three to four days after arriving. New technology will quicken the process. That includes antigen testing and LAMP testing. That needs serious focus.

Chairman: Professor Giesecke has indicated he wishes to come in.

Professor Johan Giesecke: While we are discussing mass testing, does the Deputy have any idea what proportion of the Irish population would accept it or would like to be tested? Unless that percentage is high, I do not know what mass testing would be good for. Ireland is a democratic country, as we noted at the beginning.

Chairman: Am I correct that Professor Giesecke's position is that even if someone has been identified as a contact that he disagrees in compelling them to present for testing?

Professor Johan Giesecke: No, I was talking about mass testing.

Chairman: Yes, but I refer to the broader issue of compelling someone to present for testing. There is a phenomenon in Ireland where a relatively concerning proportion of people have not been presenting the second time for seven-day testing. Does Professor Giesecke think that should be made compulsory or would it be a breach of a person's right to bodily autonomy?

Professor Johan Giesecke: I find it difficult to see how it would be made compulsory in Ireland.

Chairman: In Sweden, are certain groups of people required to present for a test? If, for example, somebody is identified as having Covid-19, are his or her close contacts required to present for testing or is it left to them to be notified and to present?

Professor Johan Giesecke: It is not compulsory.

Chairman: I thank Professor Giesecke. Is there any other point he wishes to comment on?

Professor Johan Giesecke: It is outside what we are talking about now but Dr. McConkey said something very wise about the need for "a strategy to work over three, five or seven years". We must learn to live with this disease.

Deputy Bernard J. Durkan: I welcome our guests and thank them for the evidence they have given to the committee. Right now in Ireland, the trend is going in the wrong direction. It is true the number of tests is increasing, and perhaps that is why the number of cases is increasing, but the number of deaths is not appreciably increasing. That tends to suggest the numbers now testing positive are in the lower age cohort, which appears to be the case based on the wider evidence too. What should we do now? What is the single most important step we should take to reverse the trend without going into lockdown? I presume it is an increased emphasis on

social distancing, which is a weakness in the system at present, and there may be others.

My second question relates to South Korea. What does it have that we do not? Are its ambient conditions, for instance, similar to those in Ireland? Does it have the same level and frequency of air travel that we have, such as between Dublin and London, which is the busiest air route in the world? What does Finland have that we do not? What has it done that seems to be working better than what has been done here?

I turn to the issue of nursing homes, meat plants and workplaces of that nature. The infections come from outside nursing homes; they do not originate inside them. The main issues relate to transport to and from the centres, staff and whatever else that may be a contributory factor. What, in the opinions of our expert witnesses, would be the correct action to take to prevent infections in those settings?

Finally, I turn to saliva testing. I happen to suffer from a sinus condition and shudder at the thought of anything that might induce a nosebleed or something like that. Saliva testing of children has been suggested as a possible means of increasing the alacrity with which the public might become involved in testing.

Dr. Samuel McConkey: I am happy to start with the first question, which related to the single most important step we could take to fix this. Honestly, there is no one single step but rather a package of measures. This is not a problem with one solution. I do not believe that the current testing, tracing and controls we have will be adequate to stop this ongoing rise, which has started to lead to increased hospitalisations and admissions to ICU. Inevitably, in two to four weeks if it continues to rise, there will be more deaths. While not many deaths are occurring right now, to me it is an inevitability, given what is happening in the US and other countries, that increased deaths will come. It is a whole package of measures. Physical distancing, with widespread community buy-in, is important, which means socialising with one's family who one lives with and neighbours not visiting one another's homes. It involves wearing masks, as we talked about, and it involves speeding up our testing and contact tracing. A lot of improvements in the quality of speed of what we have been talking about already are needed.

Dr. Kirsten Schaffer: I can answer the question on saliva. Data have been published that show that testing can be performed on saliva as well and that is quite sensitive. The limiting factor with saliva might be that a significant amount of saliva might need to be produced to be tested. The recommendations in the papers that have been published so far are that it should be done early in the morning, that a person should not have brushed his or her teeth or eaten, and that the person should produce a certain amount of saliva. If all of that is managed, it can be fairly equivalent to testing on a nasopharyngeal swab.

To comment on what Dr. McConkey said, I agree there is no one step or measure we can take and it is worrying that the trend is upward. We are all afraid that the number of steps will go up again as well but we have to become more detailed on what interventions are important. When one sees videos on social media of house parties of more than 50 people that take place for a couple of hours before the Garda comes in the end to try to disperse it, that is a big issue because these are high-risk situations for a significant spread of Covid-19, especially considering the fact that we do not even collect the data of those involved. That means we will not have the data collected on the source of an outbreak from such an event. We need to look more closely at how we can carry out more refined interventions to try to prevent transmission.

Dr. Tomás Ryan: I want to come in on the issue of South Korea. There is no real evidence

to suggest it is a climate issue. There were outbreaks in Singapore and Japan and other places in east Asia. Nobody, regardless of their preferred strategy, could disagree with the merits of having a South Korean style infrastructure here in Ireland. It would be wonderful to do so. I do not see it happening unless we create a dedicated pandemic response agency and start properly investing in public health medicine in Ireland, which we seem to have been neglecting for a long time. It is noteworthy that New Zealand does not have that kind of infrastructure either, which is why it had to enforce a lockdown to get to zero Covid. However, that cannot realistically be done overnight. Starting from here, we need to figure out how we will manage the next few months.

The Deputy asked about Finland and there does not seem to be any magical ingredient there. If I was to describe my perspective of what is happening in Finland through publicly available information and through talking to colleagues there, it seems they are just doing well everything that we should already be doing, such as limiting contacts, mask wearing, physical distancing and hand hygiene. They also have the advantages of a sparser population density than here, different customs and possibly more compliance etc. It is rational for us to look closely at what is happening in Finland because it seems to me to be one of the best performing countries in Europe.

Chairman: I have a quick follow-up to Deputy Durkan's question. We are seeing fewer ICU beds being taken up and fewer deaths. Is that just because it is a younger cohort who are at issue or is it also because treatments have improved? From a medical perspective, have we learned and have there been any improvements in the treatments such that fewer people progress to requiring ICU capacity?

Dr. Samuel McConkey: Yes. The definitive results from a study based in many centres in the UK convincingly showed that a steroid called dexamethasone, which is cheap and widely available, decreases by about 20% or 30% the bad outcomes in people who need oxygen. We have also got better at giving high flow oxygen and nasal oxygen on the wards through the past six to seven months and that may keep some patients out of ICU. The reason we are not seeing the huge numbers in ICU yet is just that this growth phase is happening at a much slower pace than what we had back in February and March. It takes several weeks for people to get really sick with adult respiratory distress syndrome and the ICU lung failures, and then it takes another few weeks for them to die. There is a delay in seeing that. We see the cases first, the ICU admissions a few weeks later and then the deaths later again. I am very pessimistic that that will happen.

Chairman: I have one more question for Dr. Ryan. He consistently referred to South Korea and Taiwan. I am not a scientist or a doctor so I do not know the merits of the suggestion, but I have heard it said that the situation there may be partly attributable to the far greater exposure to SARS more than ten years ago leading to a residual immunity to what is another coronavirus. Is that a theory to which Dr. Ryan would give any credit?

Dr. Tomás Ryan: While it is something that we cannot rule out, and Dr. McConkey will have more to say on this, I do not think there is any clear evidence of cross-immunity, but it does seem that it can happen. My view is that it does not seem to be explaining what is happening in those countries.

Chairman: I am not going to bring in Dr. McConkey because we have two speakers waiting. It is not that I do not want to hear the answer but I look forward to receiving Dr. McConkey's view in writing if he could send it to us.

Deputy Cormac Devlin: I welcome the witnesses and thank them for their time and input. I am going to ask all my questions together as I am limited on time. Dr. McConkey was asked about immunity testing and I think he was saying it may be good for about three to four months. He might elaborate on that. In the context of his recent comments on contact tracing, one of the issues we are facing is in respect of people who have tested positive trying to remember with whom they were in contact with over the relevant period. That is proving difficult. I would welcome Dr. McConkey's thoughts on that. The all-Ireland response is crucial and it is unfortunate that there are two different systems in operation on the island. It would be great to have a unified strategy.

I fully agree with Dr. Schaffer's opening remarks on the two pillars. She mentioned that she delivered a paper at a Covid-19 meeting and that it ranked among the top ten papers in Europe. I would like to hear more on that, maybe after this. Dr. Ryan mentioned the best performing countries and listed a number of them. I am keen to know in comparison to Ireland what was the impact on their economies and on the movements of the populace.

I compliment Dr. Giesecke on his succinct answers throughout the meeting, which help all of us who have limited time. He mentioned that a soft, voluntary lockdown may be quite effective. Could he elaborate on that? What would a soft lockdown be as opposed to a hard one? He also referred to allowing controlled spread among people below 60 while concentrating on the old and frail with frequent testing of staff and residents in care homes. Obviously, that would be ideal if it were possible but how could it be made possible? Finally, Dr. Giesecke said that Covid has surprised us many times and may again. Unfortunately, I totally agree with that. We do not know and we are in uncharted waters.

Professor Johan Giesecke: I am sorry, could the Deputy please repeat his first question?

Deputy Cormac Devlin: It was in respect of the idea of a soft lockdown and what that would entail..

Professor Johan Giesecke: There is no law telling people to stay at home more and the police will not pick someone up who is in the street when he should not be. It is just telling people what they should do with distancing, handwashing, staying home and so on, and self-isolation if they feel sick. When the Government introduced these measures in mid-March, it was possible to calculate that the number of potentially infectious contacts between people in Sweden dropped by 70%. That was just voluntary with no law. People did what they were asked to do and they have continued to do so. One thing that is good with the Swedish strategy is that we have not changed anything for the six months whereas other countries are going in and out of lockdowns and restrictions including the countries to which one can or cannot fly. That was the first question. The second one was about care homes. I am sorry, could the Deputy remind me?

Chairman: How does one allow the virus to circulate among under-60s yet prevent its transmission to people over 60, especially into care homes?

Professor Johan Giesecke: As Dr. Schaffer said, there is no 100% effective way to do that but there is much that can be done to minimise the risk of introduction of the virus into care homes.

Chairman: I ask the other speakers to reply to Deputy Devlin in writing if that is okay with him.

Deputy Cormac Devlin: That is fine. I thank the witnesses.

Chairman: I thank Dr. Schaffer in particular for the paper.

Deputy Jennifer Murnane O'Connor: I too thank our guests. I have three questions. The witnesses might come back to me in writing and I would appreciate that. Dr. McConkey previously spoke about saliva testing. I believe it is precise. Is it faster and does it give fewer false negatives or false positives? I believe that at present, we have a positivity rate of just 2% or 3%. Testing is expensive. I am not saying that we should not test but are we being clear about the symptoms? I know that GPs and out-of-hours services are overwhelmed with calls about Covid symptoms. Half of the schools have children missing while waiting for test results or for advice. Do the witnesses think that we need to look at what we are saying are symptoms and test those while also testing all close contacts in the case of an outbreak? I am aware that we are one of very few countries testing in this way after a positive case.

I am not sure that we can continue to test at this level with this level of negative results. People will tire and perhaps not go for tests, or we will run out of capacity. It seems inefficient to test so many with such a low positive rate. I know that we have to think about those without symptoms, but that is not what we are seeing being referred in the main. What do the witnesses think is a way around that?

This has a significant impact on mental health. I worry with the winter and the darker evenings coming, which can be dreary enough in itself. I worry about what will happen in future. We see cases rising in Sweden where there is no lockdown as we know it. We also see the older population becoming infected. If we lived with this virus and let it run, how would we protect our older population? Can we make our own pods in our lives? For example, if there are three houses on a street, with one person living alone, a family, and a newly-wedded couple, can they call themselves a household and cocoon themselves, operating like a pod? We need to do that with the evenings and what is happening. We need to look at pods. People might have seen the Irish Open where players are associating with staff and they circulate as a pod. We see it with movie sets and with various sectors starting to use pods. Can it work? Could it be the thing that minds our mental health - allowing social contact but keeping us protected by keeping us in small pods? I am particularly concerned by the messaging to the older population, with the prospect of going back indoors and the worry about that.

Information and how we communicate are crucial. We have to live with this virus and it does not know whether one is young or old. We need a roadmap of how to look after our elderly. Communities will play the biggest role here, with people in pods watching out for their neighbours. I thank the witnesses. We have many challenges ahead. We have to mind ourselves and our neighbours. We all have to keep our distance and wash our hands. We all have a personal responsibility because the figures are going up. We need to work on that more. From my own clinics and work with people, I feel that we need to give more information about how to look after communities and workplaces. We can work on this and will sort it, but there is more that we can do.

Dr. Samuel McConkey: There is a lot to address and I am happy to do some of that in writing. The idea of having protected pods or bubbles is essentially the zero Covid strategy. We are saying to have a small group of people, who do not have it, and then to protect them by preventing anyone in that group getting it by limiting contacts outside of that group. That is essentially what we are proposing, not just at street level or two houses but at county level or town level, like Ardee, and then, hopefully, at national level. What has been articulated is what we advocate, which is no Covid transmission within, initially, local communities based on local data and the determination of local activists to motivate people to stay within that group.

I agree that this is a challenging time for people's mental health and many people struggle to find what values they cherish. The question on saliva lends itself to a written answer. Unfortunately, one does get false negative results, as Dr. Schaffer correctly said earlier. The level of symptoms that GPs should require before they ask for a test is really challenging. If one has too low a bar then one ends up overwhelming the testing capacity in an unhelpful way and it is too slow then so is not fit for contact tracing purposes but if it is too high then cases are missed.

Chairman: I thank Dr. McConkey and ask the other witnesses to reply in writing. Deputy Shanahan has another brief question but I have a question. It was stated earlier that notwithstanding allowing the virus to circulate more, perhaps in Sweden, than in other European states that immunity levels were no greater afterwards or are no greater now. Does Professor Giesecke agree?

Professor Johan Giesecke: No. Immunity levels are higher in countries where one had circulation.

Deputy Matt Shanahan: Do any of the contributors believe that mandatory mask wearing in all public settings, even on the streets of Dublin, can dampen down the disease for both young and old?

Dr. Samuel McConkey: Let me give the example of my 87-year old mother walking the small lanes of Monaghan without meeting anyone for two weeks. I suggest that there is no benefit for her to wear a mask while walking the lanes of Monaghan.

Dr. Tomás Ryan: We need improved mask wearing and we are not completely there yet. The current main issue is physical distancing because it has been dropped by a large part of the population. We should promote greater mask wearing in all indoor environments.

Dr. Kirsten Schaffer: I agree with Dr. Ryan and Dr. McConkey. We need improved mask wearing and adherence to social distancing but the biggest issue is the social gatherings that are not in agreement with the current restrictions, which is where transmission is happening.

Professor Johan Giesecke: I agree with Dr. Ryan that the risk is people forget to social distance, which is more important than wearing masks.

Chairman: Is mask wearing compulsory in Sweden?

Professor Johan Giesecke: No.

Chairman: Are masks worn generally in schools?

Professor Johan Giesecke: No.

Chairman: Does Dr. Professor Giesecke think it would be beneficial if masks were worn more?

Professor Johan Giesecke: The scientific evidence to support mask wearing is very thin.

Chairman: I thank all of the witnesses for their contributions. If they wish to make a final statement then please limit it to one minute. I am very aware that they have all given a lot of their time and they are all very busy people with a lot of expertise to share with this committee and others.

Dr. Samuel McConkey: I thank the committee for the privilege to contribute. The most

important thing, as Professor Giesecke alluded to, is social cohesion and political stability. Many people have completely underestimated how divisive the epidemic and pandemic can be, which we have seen in other countries. It is essential that decision-making is open, debated and transparent yet keeps us together as a people because if we fracture then we will not succeed.

Dr. Tomás Ryan: I thank the committee for an inclusive discussion, which we need more of as a country. We need to move from a reactive way of dealing with the virus to a long-term realistic proactive strategy and that needs a lot of public discussion, and inclusiveness. A lot of the discussion that we have had in this country has been health versus the economy. What we really mean is we are discussing 2019 versus 2020. We need to accept that the world of 2019 is not coming back to us anytime soon. We need to face this, put all the different choices on the table, compare the outcomes of each one side by side, and see what each strategic option would really be like for us to live with. Then we can look at what option we as a society want to choose.

Dr. Kirsten Schaffer: I thank the committee for the opportunity to speak here. The most important thing is an open debate. So far we have not had enough debate about the different approaches or an open debate about the data and facts and how we want to proceed from here. That would be a good starting point.

Professor Johan Giesecke: First, we must watch out for undemocratic decisions that use emergency legislation in cases where it may not be needed. Second, this virus will be with us for a long time. We will have to learn to live with the virus, unless a very good vaccine comes up before Easter, which I doubt. I thank the committee for the invitation.

Chairman: I thank all of the witnesses for joining us today.

The special committee adjourned at 12.20 p.m. until 9 a.m. on Tuesday, 29 September 2020.