



Select Committee on Science and Technology

Corrected oral evidence: The science of Covid-19

Tuesday 9 June 2020

10 am

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Members present: Lord Patel (The Chair); Baroness Blackwood of North Oxford; Lord Borwick; Lord Browne of Ladyton; Baroness Hilton of Eggardon; Lord Hollick; Lord Mair; Baroness Manningham-Buller; Viscount Ridley; Baroness Rock; Baroness Sheehan; Baroness Walmsley; Lord Winston; Baroness Young of Old Scone.

Evidence Session No. 5

Heard in Public

Questions 44 – 50

Witnesses

Professor Susan Michie, Director of UCL Centre for Behaviour Change, UCL; Professor Lucy Yardley, Professor of Health Psychology, University of Bristol; and Professor of Health Psychology, University of Southampton; Professor David Halpern, Chief Executive, Behavioural Insights Team.

USE OF THE TRANSCRIPT

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Examination of witnesses

Professor Susan Michie, Professor Lucy Yardley and Professor David Halpern.

The Chair: Good morning, and a particularly warm and sincere welcome to our witnesses, Professor Michie, Professor Yardley and Professor Halpern, for this morning's session on behavioural science. We appreciate very much that you are taking the time to speak to us today. Our sessions are recorded in full and put on the internet in a couple of days. It is of great public interest. You will see from our questions that we want to learn about behavioural science, its limitations and how it can help to manage the pandemic—not necessarily in what has passed but going forward from now. All three of you are most welcome, and I thank you very much. I will ask Baroness Blackwood to start the questions.

Q44 **Baroness Blackwood of North Oxford:** Thank you, Chair, and I thank the witnesses for appearing today. I understand that SPI-B noted on 14 March that identifying an evidence base from which to make behavioural science recommendations in the current context was quite difficult. Just to start us off, could you give us an outline of the main methods and approaches used in behavioural science to inform health interventions?

Professor Susan Michie: Good morning. We draw on several sources of evidence and thinking when giving our advice. Because it is a new situation, we often do not have direct data, so we look at syntheses of evidence as a result of systematic literature reviewing. On the psychological consequences of adherence, for example, there is a literature review that takes the quarantine situations across different countries together and finds out that certain signals happen time and again, even though the countries, the times and the particular disease might be different. We looked to see what relevant evidence there is from the past.

We also draw as much as possible on current evidence, some generated by us and some by other people. We have weekly or even daily access to surveys about people's reported thinking, behaviour and emotions. We can also sometimes run experimental studies—for example, looking at how different types of presentation of test results may change people's way of thinking or intended behaviour. The other thing we draw on is evidence-based principles that may be brought together in theories or models of how people think, feel or behave, and the relationships between those factors and their situation.

I could go into more depth and breadth, but I hope that has given you a sense of the type of information we bring together. We have a collective committee with people from very different disciplines—psychology, anthropology, sociology, emergency sciences, et cetera—and between us we come up with recommendations, drawing on the best evidence we have at the time but, importantly, recognising the caveats: any one bit of evidence will inevitably have limitations, and general principles will apply differentially according to the population, the setting and the behaviour we are looking at.

Baroness Blackwood of North Oxford: Thank you. Professor Yardley, do you want to follow on from that? In particular, if you are taking evidence from multiple countries as a way to understand a new phenomenon, how do you control for the different cultural and behavioural reactions? That has been a feature of the responses to non-pharmaceutical interventions.

Professor Lucy Yardley: That is a very good point, and it is related to the comments we made about the difficulty of drawing on data in real time during a pandemic. There are very important context effects on how interventions are taken up and implemented. These differ depending on the context of the infection but also on the country, its culture, its resources and so on. The only thing you can really do is take into consideration the differences between the contexts, as far as you know what they are, and try to predict how these different contexts will influence things.

In a recent example, we thought about the possibility of bubbling between households. We looked at the New Zealand example, because it was just ahead of us, and noted that even in New Zealand people did not have a very good understanding of it or stick strictly to the household limits advised. We knew from our modelling that, whereas in New Zealand the infection rate was very low so that did not matter too much, in the UK, where the infection rate is a lot higher, that obviously meant it was more of a concern.

Baroness Blackwood of North Oxford: Thank you. Professor Halpern, the evidence base for the recommendations made by SPI-B, but also more generally by SAGE, have been a feature of a lot of debate, particularly the recommendation on behavioural fatigue. Do you want to comment on any of the questions and points that have come forward, particularly that point?

Professor David Halpern: Sure. I know there has been a lot of debate about that. From memory, it did not come from SPI-B or us specifically, although obviously there is a lot of literature on fatigue with treatments. We have done trials in places on tuberculosis, for example. A lot of people stop taking their medicine, so for medics this will be a familiar phenomenon.

On the wider set of questions, there is a large existing literature, several Nobel prizes and so on, and we have been able to supplement that with near-live trials in many areas. At the behavioural insights team we have run nearly 40 trials since early March, often trying to answer some of these questions as they arise. You cannot do it all on a trial basis, but you can often try to figure out how people will respond to different kinds of messaging and try to get some sense of different kinds of compliance effects and how different populations will respond. We were able to draw on that and on the last decade of work.

On behavioural fatigue specifically, I do not recall that coming from us, but clearly there exists literature on people thinking that they will go into a lockdown that will go for many months. There is a history that goes back at least to the Spanish flu, when repeated lockdowns led to

deterioration in compliance over time. It is a very different world today from where we were in 1918 and 1919, of course.

Baroness Blackwood of North Oxford: Do you think it would have made a difference to compliance if lockdown had been a week earlier?

Professor David Halpern: It is difficult to know; there is no counterfactual to it. Most people's view, and ours, is probably not. One great unknown, which Chris Whitty and others would have had to wrestle with, was how long this was going to go on for. As everyone has seen, there has been very high public compliance on most factors. It is a great unknowable. As the reality of the illness sharpened in the public mind, that will have helped to drive compliance. If we had gone for lockdown very early, it could have been an issue.

Baroness Blackwood of North Oxford: Do you think it would have been predictable at the time?

Professor David Halpern: That is an interesting question; we may get on to it later. There is behavioural science involved in making decisions, too. There was a lot of uncertainty around it. In our view, the evidence was that people were generally going to be fairly compliant, as long as you were authoritative and gave clear reasons for moving forward with these various measures.

- Q45 **Lord Borwick:** What are considered the most effective approaches to get the public to behave in a certain way? When we talk about the public, should you make a distinction between younger people and the population generally? My entirely subjective view is that the level of agreement and compliance with the restrictions is different among elderly and younger people. The level among younger people seems to be very much lower than among the population in general. Does one therefore go for different approaches to communicating, or is it just that the same approach is not working as well with younger people?

Professor Susan Michie: Those are very good questions. Your first question is about which interventions are likely to be the most effective. They are likely to be those that start with an understanding of the nature of the particular behaviour in the particular setting and context. For any behaviour to occur, people need to have three broad things in place. First, they need the capability—the knowledge, skills and physical ability. Secondly, they need to have the motivation to do that behaviour. Thirdly, they need the opportunity to be able to do it: financial opportunity, housing opportunity, et cetera. Interventions that take all three aspects of behaviour into account, of actual people in their actual everyday lives, are likely to be the most effective.

There is a whole range of strategies. There is a framework called the Behaviour Change Wheel framework, which has identified nine very high-level strategies that one can use, such as persuasion and incentivisation, and seven broader policies that can underpin those. Which you select depends on your analysis of behaviour in this situation, as I outlined it, and what the main influences are that can be used to change the behaviour.

On the question of different groups, you mentioned age. We have good data. For example, while compliance has been generally very high, certainly up until May, the group that has been most challenged in adhering to the lockdown guidance has been younger people, especially younger men. We know that tailoring information to the groups we want to change or to adhere to certain behaviours is much more effective than blanket advice, messaging or whatever.

This could have been done much more. We have known for many weeks, longer probably—a couple of months—that it is the younger groups, such as those in their late teens and early 20s especially, that are less compliant. For those groups, messages that come from sources they identify with, such as leading well-known sportspeople, musicians, film celebrities, et cetera, are very likely to have much more of an impact on them than the 5 o'clock Government press communications and other types of general written communication that we have seen.

Moving forward, not only for young people but for other sections of the community who are struggling to adhere, we could do much more with sophisticated tailoring of communications.

Professor Lucy Yardley: I certainly agree with all that, and I will add a little more detail. The messages are part of trying to change people's behaviour, but only quite a small part, really. We know that the most powerful influences on behaviour are things like emotions. Fear, for example, is a very powerful driver; it was stronger nearer the start of the pandemic and is now weakening, especially in the lower-risk groups such as young people.

There are practical barriers that are incredibly important, and this has been differential; people on low incomes, BAME people and so on are much less able to adhere to the advice because of all sort of practical barriers. There are also things like habits and the social and the physical environment. If everybody around you and the environment are supporting and prompting a behaviour, it is much more likely to happen without you even having to think about it. That breaks the old habits that could spread infection and help to promote new habits that will control it.

Professor David Halpern: Lord Borwick, you are exactly right. It is very pronounced on almost every single measure. Age profiles stand out especially. It almost runs through Susan's hierarchy. We find that even on comprehension issues; in trials where we show a message for a short period of time, young men are much less likely to pay attention to it and get the detail afterwards. They are less likely to comply and so on, as has been picked up by others. They might also have some structural reason; —they might not live in such a big house or whatever. It might be harder to comply

It is not always young men; there are other differences. We sometimes see that women are more likely to say that they will not comply on some dimensions of self-isolation, particularly in relation to social issues. Maybe women are just nicer and want to help out other people and they have a sharper sense of what it means to have to socially isolate. There are differences.

There is a large literature and practice on tuning messages to particular audiences to make them more effective, either because it is a relevant reference group or other examples. With hand washing, for example, some groups respond more strongly essentially to emotional signals of disgust than others. In principle, you can tune them. You cannot do that for big, mass campaigns, but you can do it in relation to social media and some other areas.

Lord Borwick: Are we giving large amounts of extra information to young people that I as an older person am not seeing, or are we trying to get the same message across to everyone in the country and succeeding with only older people?

Professor David Halpern: Remember that a number of people are doing this in the Cabinet office, DHSC and so on. They organised a lot of the details, particularly on social media campaigns. Our general advice is that you keep the headline messages as clear and simple as possible and repeat it for specific actions. You can often tune the visuals or other details somewhat to different audiences going out through different channels, especially if the advice is running via a social media campaign.

The Chair: Professor Michie, you said that there are some things that we could do better. What are they?

Professor Susan Michie: I was suggesting thinking about the messaging coming from sources that are trusted and that share an identity with the people we want to bring on board or influence in different ways. For young people, for example, I suggested that instead of it coming from the Government—the data shows that, unfortunately, trust in the Government has been reducing over the last few weeks and tends to be lower for younger people—the messages should come from people they readily identify with. I suggested sportspeople, singers, film stars, et cetera, or people from their own communities who they would identify with. This sort of approach is generally widely used as a way of helping people to change their behaviour, and I have been surprised that not more has been done about that.

I want to emphasise the very important points that Lucy made that it is about not just messaging but giving people the practical help required to help them to adhere. We know, for example, that certain things get more challenging over time, with boredom, frustration, loneliness et cetera. If particular groups are not abiding by the guidance, we need to think about why that is. People who are financially insecure and on low income, for example, find it most difficult to abide by the guidelines because they need to have money to bring food home, to be very basic about it. We need to think much more broadly than just messaging.

The Chair: Professor Halpern, how long can you keep older people locked up before their resilience breaks and you have to do something different?

Professor David Halpern: Goodness. There are serious questions that go beyond the narrowly behavioural about the trade-offs involved. If you are late in your life and you feel like you are being told that you cannot

be in touch with your grandchildren and others, there is a legitimate concern about that trade-off and the extent to which it is driven by the Government. Generally, compliance has been very high in older groups, particularly those who have any vulnerability.

But yes, of course, it is an issue that has hung over and will continue to hang over the whole question of what level of compliance will be achieved. One reason why it really matters, particularly in bringing test and trace on stream to a significant scale, as has been done in other countries, is because you can shut down contagions, and then in principle you start to be able to ease some of the other measures.

Q46 Lord Browne of Ladyton: My question has two parts to it. First, which elements of behavioural science are being used in the UK's response to this pandemic? Secondly, to what extent and for what purpose have the Government taken into account advice from behavioural science in their response to the pandemic?

Professor David Halpern: Of course, our role is to give advice; the Behavioural Insights Team was created in government, although we are now at one remove from it. It feeds through a number of routes: through SPI-B, through SAGE, and indirectly. Do we win every argument? Of course we do not. One of the main things that working on behavioural science teaches you is humility, I would hope. Humans are complicated, and wherever possible you want to try to run tests and trials and see how people respond.

In general, that message has got through. But we also have a Government who are working at an enormous pace just to try to get things delivered. When you say, "We think it could be this", or, "We think it could be that", it is quite a big ask to say, "Can we run multiple versions to see which one is more effective?" So it varies. To be clear, it is usually in multiple areas. It is clearly used in communications, which we always touch on; it has been quite extensively used to tune and try to improve many of those.

On MPis and what your options are, clearly they are substantially behavioural: quarantine, mask wearing, hand washing, and so on. You get it on compliance issues, which a lot of you have talked about, and trying to work out where compliance is breaking. How can you tune and improve your policies? Finally, for the advanced class, there are interesting questions about using behavioural science in the way government processes themselves work to try to avoid biases in policymakers too.

Has it hit everything on those fronts? No, but it has quite extensively, and the British Government are generally regarded around the world as having taken this on pretty seriously, not least from 2010 and the creation of the Behavioural Insights Team itself, as well as lots of other senior figures, including those with us today, whose role in SAGE, SPI-B, and so on is recognised.

Professor Susan Michie: I will say something from the perspective of being a participant of SPI-B. It is very difficult to answer your question.

We have published many dozens of papers, which are presented to SAGE, but we have no feedback as to where they go or whether the advice is used in any way. It would be very useful for the future if people tracked through, for all the committees, what way advice has been used and by whom.

Certainly, the committee has published two or three papers on the principles of good communication, and several behavioural scientists have noticed a disconnect between those principles of good communication and what we see, both in the verbal presentations at the press conferences and in the communication about the change in messaging from "Stay Home" to "Stay Alert". But that is only my observation from one committee, albeit an important committee, and obviously behavioural scientists are working with the Cabinet Office, Public Health England and different government departments.

It is very difficult to answer your question, and I do not know whether any behavioural scientist could because of a lack of transparency in the flow of scientific advice through to policymakers, even though, of course, scientific advice is only one of many different types of advice that policymakers and politicians will act on. We would never expect them to follow scientific advice in any mechanistic way.

Professor Lucy Yardley: I think I can be a little more positive in some regards on the way behavioural advice is feeding through for the future in planning and how to safely resume activities. Just as the environmental sub-group of SAGE has been asked to input advice on how to carry out environmental control, the behavioural scientists have been asked to advise on how to try to limit the risk through making social connections.

We have worked up guidance through SPI-B on the principles for reducing infection through social connections and how they could be best embedded into practice through organisations, employers, trade unions and the general public, and by working with all the diverse communities. We produced a set of principles, which we know have been distributed to the relevant people, such as in the Health and Safety Executive and across government, who are trying to work on how to resume activity safely. Therefore, we know that that has been taken up, but obviously we do not yet know how it will be implemented.

Lord Browne of Ladyton: In so far as I have understood the briefing that I received in advance of this witness session, my understanding is that SPI-B is convened to advise SAGE on actions to anticipate and help people to adhere to interventions that are recommended by medical and epidemiological experts to control the spread of the infection. Is that the role as you perceive it, or do you think that you are influencing actual interventions?

Professor Lucy Yardley: That is absolutely our remit; it is very clear in our terms of reference. Quite a lot of the work of SPI-B is quite reactive in the sense that we are told what options for epidemiological control are being considered and then we are asked for our advice on the factors that would help to implement them or which might be a barrier to implementing them. A lot of our advice is very much along those lines.

Sometimes the Cabinet Office, for example, asks for our advice or asks us to input into other areas of government, as I was saying, where advice is being worked up.

Lord Browne of Ladyton: Before I come to the other witnesses, at the very early stages of government interventions, when the Government's approach was markedly different from other European countries', there was certainly a belief out there that it was significantly influenced by nudge theory, which suggests that the actual intervention—the decisions that the Government made—had been influenced by behavioural science as opposed to just how you deliver or maximise the intervention once you decide what it is.

Professor Lucy Yardley: That was certainly not the case in SPI-B at all; I do not remember nudge theory being discussed. In the paper that came out at that time, we were advising purely on what we saw as barriers to maintaining self-isolation for a long period and how to overcome them. The advice we gave was that it was incredibly important to address the socioeconomic implications and the financial problems of quarantining. That was much more the tenor of the advice. We were also warning about the problems of loneliness and the necessity of making sure that there was social support to overcome those kinds of problems.

Professor Susan Michie: I agree with that. We have not talked about nudge. It is a book and a collection of techniques; I would not say it is a theory. It is not the same as behavioural science, which is much broader. I wanted to clarify that point.

The Chair: Professor Halpern, you should have the last word, as nudge is mentioned.

Professor David Halpern: Yes, you are right. It is a curious theory that has emerged in the media, but it is not true at all. One of the key points about it is the fact that these things are referred to as non-pharmaceutical interventions. When we think about disease, we naturally immediately think about it in quite medical terms. It takes a little while to realise, particularly if you do not have vaccines and so on, that most of your toolkit is in fact behavioural. So, if anything, weirdly it goes the other way in relation to the anchoring, but that may be for historians to pull apart.

Baroness Hilton of Eggardon: I have a comment to make on nudge theory. Another Science & Technology Committee looked at this and thought that it had very limited application to behaviour generally.

The Chair: I would not say that just now. We will not discuss that.

Baroness Hilton of Eggardon: Sorry, shall we go back to compliance?

The Chair: Professor Halpern is here and he knows a lot more about nudge theory. Baroness Hilton, please continue with your question.

Q47 **Baroness Hilton of Eggardon:** I think you have answered quite a lot of my question already. Was the level of compliance in line with your expectations, or were you surprised by the extent to which people did

behave in accordance with what you suggested? You sent the Government a very clear message about the need for clear messages. Do you think they understood that need sufficiently?

Professor Lucy Yardley: I will start with the first part of the question. I think the level of adherence was higher than we expected, although, as we said, context is so important and so different, and this was an unprecedented situation. The example was set for us by Italy in terms of behavioural theory. It was like a modelling experiment in that the situation there was so terrifying and graphic and the lockdown so obviously necessary. That really helped compliance in the UK, although obviously we will never know because we could not do that experiment.

We had in fact done a systematic review of quarantining right at the start of SPI-B which suggested that in other contexts the level of compliance with quarantining has usually been much lower. This level of compliance was certainly unprecedented and at the higher end of what we could have hoped for. It is possible that if the Government had been learning from behavioural science, some of our suggestions about how to do positive messaging and how this was all about saving lives and protecting the NHS, as well as overcoming some of the practical barriers such as putting the furlough system in place and so on, might have helped in that respect.

Professor Susan Michie: I am not sure I remember the second part of the question, but I wanted to say that in addition to the clarity of messaging, the other thing that is very important is consistency; the same message is given by different people and at different times. Another thing that is really important is the rationale, so people are not just told what to do but why they should do it. All of that was done very well at the beginning.

Another very important reason for the very impressive collective adherence was the collective solidarity that was built up. There was good leadership on that point at the beginning of the epidemic—that “We’re all in this together”, although obviously some of us are more in it than others. That sense of collective solidarity and perceived fairness are really key to maintaining high adherence.

Professor David Halpern: We have put a lot of this into the public domain, but we can share more of it. A lot of compliance is about clear messaging, such as the posters everywhere about handwashing—those early examples. They went through a lot of iterations while we tuned and improved them, working with the Department of Health and Social Care. Essentially, if you look at the posters side by side over a period of time, you see that they become simpler and simpler and you end up with a clearer message. The images get refined so that they really cut through—remember that most people see them for only a few seconds. A huge amount of work can go into these things before they finally appear at the other end. We almost knock the corners off them cognitively so that you can put the information across very rapidly and with the right level of emotional response.

In a much wider context, a key driver of your behaviour is what everyone else is doing. That is very powerful, of course. You can see some areas that are not equal behaviourally, such as in the number of people wearing masks. You can see these differences across countries. The public are not dumb, and they look at them. There are also cross-cultural differences that have to be factored in which are related to social capital. The Nordic nations, for example, tend to be very compliant with what their Governments say, while others are less so, and there are differences in what are sometimes known as tight and loose societies that affect the extent to which people respond in certain kinds of ways. The UK is generally mid-table on both of those variables, which in principle affects how the measures are designed.

Q48 Lord Hollick: I have a rather poor internet connection, so apologies if my contribution breaks up.

As we move from the clarity of the lockdown to the rather more complex situation we are in now, the messaging seems to have become less clear again and there seems to be an element of behavioural fatigue around, which we have touched on in our discussion about age groups. What particular advice have you given to try to address the growing problems and great difficulties of implementing the strategy of release from lockdown? Have the Government taken note of the recommendations that you have made?

Professor Lucy Yardley: One of the follow-on thoughts I have had about the previous question is that while adherence to the stay-at-home advice, which was very simple, was excellent on the whole, right from the start adherence to the more complex advice on individual behaviour has been less good—an example is self-quarantining and isolating both outside and in the home when you have infections. That has always been less good. Obviously, it is harder to make people follow more complex advice which they have to implement themselves rather than a very simple thing where everyone is doing the same.

This is the absolute challenge that we have to overcome as we move from the initial phase of the pandemic to the next phase. We have to work with people to improve their health literacy so that they understand what needs to be done and why. People need to understand the risks better. The concept of risk fatigue is not something that I think anyone in SPI-B has ever embraced or mentioned.

What is definitely important is perceptions of risk to the self and to the family. As perceptions of the risk for infection in general go down, more encouragement is needed to identify where there are high risks. That can be done partly through testing and tracing, which is why that is so important to behaviour.

We are also doing work on helping people to recognise high-risk situations—when you, or someone you are in contact with, have many contacts with a lot of different people. People need to be educated that these kinds of high-risk situations and people who have large networks will always be at a high risk of infection. Therefore, we need an awful lot

of care, particularly with controlling infection in those situations. We definitely need to do a huge amount more there.

That is where we need to work up in all the different situations people's understanding of those risks as well as their understanding of the solutions, because they will be best able to come up with the solutions that work for them and which they believe in and are able to implement.

Professor Susan Michie: One of the reasons for people adhering less is that they tend to become habituated, so one has to think about new ways of putting over the messages.

Another thing that has been talked about is how risky people perceive things to be. One of the challenges with easing lockdown—for example, opening up non-essential shops—is that this can communicate a message that the situation is not as risky as it actually is. This is a real challenge. One of the principles that we in our committee have mentioned on several occasions is the really important concept of co-design or co-production, so that one is working in partnership with the communities that the Government wants to bring with the whole population in order to adhere. That is for several reasons, including the reason Lucy has already mentioned—that the communities, whether neighbourhood, occupational or demographic communities, are the groups that understand best the nature of the challenges for them. We can also find out how they are thinking about the situation they are in. We are likely to generate better solutions than if we do not do that.

Secondly, the idea of working in partnership with communities on the ground, rather than the more top-down approach that we have seen, gives communities ownership of the solutions and strategies, so they are much more likely to buy into and adhere to them. This country could do much more along those lines, with good effect.

Lord Hollick: The release from the lockdown was presented against the background of testing and tracing, which is still some way into the future. Has the failure to deliver testing and tracing undermined the strategy and led not only to a greater degree of confusion but to a concern in the population generally that things are okay and that we are nearing the end of the pandemic, as opposed to just at an interim stage of it?

Professor David Halpern: I would differentiate between two things. It is clearly not fully formed or finished, but Dido Harding is doing an outstanding job with a good team now to really get the testing and tracing system working well. Large-volume testing is occurring, tracing is now up and running with 24,000 or 25,000 tier 1, 2 and 3 tracers, and so on.

There is a slightly separate question: could it have been done earlier? When you look back to the earlier models from SPI-M and others, it is striking that the UK, partly because there was a such a depth of knowledge and history among academics, was slow to take on board just how big a role a variant on South Korean-style testing and tracing could play. It is clearly a more complicated message. This goes to the earlier question. Many people are going back to some degree of normality. The

objective risk is also falling. Remember, a lot of core behavioural science was built around people's estimates of risk. That is what Daniel Kahneman got his Nobel prize for in 2002.

You have a more complicated message, so on the testing and tracing stuff you have to break it down into a similar level of—ideally very clear—what we often call “if, then” statements. If you have symptoms or think you might be sick, you must get tested—and, by the way, make it as easy as possible. You should try to warn your friends directly, through the tracing system or by a combination. If someone calls you up and says you have been exposed to someone with Covid, you need to self-isolate.

Those are at least three steps that we are asking the public to take as we move into this phase. They will not affect everyone but will touch the lives of some people. It is absolutely mission critical that we get the technical side of that system in operation and that the public feel they understand what they need to do and, as Susan and others have said, feel that it is legitimate and understand that this is occurring in the way it needs to.

Professor Susan Michie: Trust will be at the heart of making this successful. We know that there are concerns at the moment about the confidentiality and privacy of the data and the fact that it is done centrally and not by familiar people in the locality. These things need to be addressed. It is also very dependent on people recognising their symptoms. We know that quite a large percentage of the population still do not know what the symptoms are, so really important work needs to be done from a behavioural point of view.

The other thing that is very puzzling to me is why the Government have called it Test and Trace, when the WHO and many other countries call it Test, Trace and Isolate. Without isolation, all the rest of it is for nothing; we absolutely need the isolation. If one does not have it on the label of the system, it is not communicating that this is a vital part of it. We already know that there will be really big difficulties with isolation if people are asked to stay at home for 14 days and not go to work. This is a big financial penalty, so unless people are financially compensated this will be a big disincentive to taking part in it at all. Nor do many people have accommodation where they can isolate themselves. Other countries provide accommodation for people, so that they can isolate themselves when they need to.

I have not yet heard any convincing strategy about what will happen for the isolation bit of it and, as I said, this is absolutely key to it. I hope that the trust issue and the practical realities of how people isolate will be addressed, because otherwise we are in danger of giving people the message that they may be infecting loved ones at home without the wherewithal to protect them from their own possible infection. Psychologically, that is a very aversive state to put people into.

The Chair: Have we any estimates of how many people will need to isolate each day?

Professor Lucy Yardley: That is more of an epidemiological question, but the simple answer is that this will depend on getting not just R but the infection rate down, which is why there has been concern that we should try to get the infection rates down as low as possible. That has behavioural implications. If the infection rate is really low, you are not asking that many people to quarantine. Our experience at the beginning of the pandemic was that it was possible to quarantine the very few people being tracked and traced and asked to quarantine. When you have very large numbers of people, it is much harder to do that, both practically and psychologically.

Professor David Halpern: It flows from the numbers. If you are running, say, 1,000 to 2,000 confirmed cases a day, you have to ask, "What are their first-degree contacts?" At the moment they are relatively small, of course, because people have not been socialising very much, but they will increase. A lot of models say that if you ballpark it at 10 contacts who you are going to ask to self-isolate, you get your numbers. You are talking 5,000 or 10,000 a day. That should fall sharply as your case load goes down.

There are really important questions that are both behavioural and medical, as they always are. Should you do anything more with second-degree contacts, for example? At the moment they are not asked to self-isolate. Can you work out where you would go with which risk categories? When you unpick it, it is a Russian doll of lots of smaller questions about the best way of doing it—including support issues, which Susan and Lucy have raised. On the other hand, in communication terms you also want to try to keep it as simple as possible: if this happens, then do that. Those are the sorts of numbers you are talking about.

Q49 **Lord Mair:** We have heard a lot about behavioural fatigue and perceptions of risk and of trust. In the context of those three important concepts, what do you think will happen if there is a second wave of the virus? How easy will it be to persuade the public to start adhering to stricter regulations again?

Professor David Halpern: Those who study the history of epidemics certainly worry about this a lot. Going back, there are famous examples of repeated lockdowns in US cities where things frayed over time. That world, as I said, was also quite different then; you did not have radio, TV, internet, you know. Your kids might be complaining today, but God, imagine then, and when it is a hot summer and so on. I do think the world is different and that some of the historical examples may be misleading.

The other key thing, which most of our models are suggesting and may be our hope, too, is that a second wave is unlikely to be on the same scale, not least if we have test, trace, isolate, and indeed support in play. We are much more likely to be dealing with localised outbreaks. The real question is how fast you can get that system to work. The really key issues are how fast you can get tests back, how fast you can get the isolation, and so on.

If you can do that, rather than having a second wave—by the way, the language, the word “wave”, itself is problematic, because it implies that there is an inevitability to it and it brings with it almost a psychological fatalism—what you are really trying to do is contain and suppress. In the end, we want to move from a defensive strategy to an offensive one. It is not really a replication of the first phase that we need, if you like; rather, it is a different set of tools that we should now have in our hands. It is absolutely right that we keep pressing to make sure that those tools and systems are working as well as they need to.

Lord Mair: Professor Michie, you talked about trust. How do you think that will have a bearing on a possible second wave and how people react to having stricter regulations again?

Professor Susan Michie: Trust is absolutely key, and it is key to leadership. A lot will depend on context, including the extent to which there can be effective leadership. There has been a dent in trust in the Government to manage the pandemic over the last month, especially over the last couple of weeks. Building that up will be central to managing the second wave.

As I said previously, in building up that trust to the levels that will be needed to provide effective leadership for all the communities we are talking about, it will be very important to: work with those communities; own up to mistakes that have been made; be honest, open and direct in communications; be transparent about the basis and rationale for why decisions are being made—it is not clear to many of us why different things are being eased and others are not, for example; and be open and prepared to learn from a range of different communities.

It will be important to work in partnership, and be seen to be working in partnership, with some humility—that we have not got everything right and that we as a country are not doing very well compared with other countries—while rapidly learning the lessons and being seen to be acting on those lessons going forward. A range of things can be done to build up trust, but without doing those things I really do worry about what will happen with the second wave.

Lord Mair: Professor Yardley, what about perceptions of risk? How will the public view a possible second wave?

Professor Lucy Yardley: Transparency is very good in relation to the perceptions of risk. People know all the time what the infection rates and death rates are. I know that there is huge appetite for much more granular local knowledge so that people know exactly where the places that they need to worry about are, and they are quite right to feel like that.

I do not think that perceived risk is the issue. The issue is the fact that, so far, we have never managed to accomplish good adherence to self-isolation, not even in the earlier stages. We have data that shows that when people thought or said that they were adhering, they were nevertheless leaving the home while symptomatic. We really have to understand better the various reasons why people are doing that despite

good intentions. We know that a lot of that is to do with not having sufficient support, not enough income and so on. Despite the policies that are in place, a lot of people fall through gaps. We have to solve this problem of why people are not yet self-isolating as much as they need to.

Q50 Lord Mair: If I may, I have a further question for all three witnesses. What recommendations have the behavioural scientists made to the Government, specifically about managing public behaviour in the run-up to a possible second wave? Have there been specific recommendations about this?

Professor Susan Michie: As far as I am aware, SPI-B has never been asked to look at this question.

Professor Lucy Yardley: A study commissioned by the Government and led by the University of Southampton is looking at that specifically, but it is ongoing and has not reported yet.

Professor David Halpern: It is a great question. We have certainly looked at it a little bit. As I said, the character of second waves is likely to change, but you are right to push further. This is quite complicated. People react to aftershocks of earthquakes quite strongly, actually—sometimes more strongly than they do to the original event. They say, “Oh my God, it’s happening again”.

There has been a lot of discussion about behavioural fatigue, which has been raised a few times, but some of these things go the other way. People have learned new habits; they have learned how to work at home. Some things make it easier as well. It is about understanding that there is a different kind of game in the place we are moving into.

The Chair: Presumably, the principles of behavioural science are accepted universally, but is that knowledge applied differently during a pandemic?

Professor David Halpern: I am not sure that I have understood the question correctly.

The Chair: Presumably, the principles behind behavioural science and its application are accepted universally by behavioural scientists, but is that application different in relation to the pandemic? For instance, was the lockdown stricter in certain countries than in ours? Was the behaviour that the population were expected to follow different? Did they follow different advice?

Professor David Halpern: We have looked at this a little bit. BIT also partly works with and supports other Governments. On the one hand, certain principles seem to be the same everywhere; social influence is very powerful in all contexts, and the way in which we estimate risk has been known to work in many different countries.

But there are also differences. One of the particularly interesting bodies of work is on the difference between what I think are called “tight” and “loose” societies. The US and the UK are broadly considered looser societies—we are a bit more relaxed and we do not like to be told what to

do all the time—as opposed to certain Asian countries, of which Japan is a famous example, which are considered so-called tight societies in which people are much more likely to comply. In some ways, they are much more attuned, if you like, to what other people are doing. If you walk down the street without wearing a mask, someone will give you one, in a way that would seem strange here.

One really interesting thing to get into is that, when you build models to work it out, tight societies are driven by previous disasters. Societies that have multiple shocks, such as earthquakes, tend to become tight societies. One of the deep, interesting ideas is that Covid will probably change who we are to some extent. It will probably make us a slightly tighter society, and it will move into all these other areas.

Professor Lucy Yardley: I completely agree that this experience will change our society permanently. The lesson that we will need to learn—again, some other countries that have done better in controlling the pandemic learned this through experience of having a very serious pandemic of this kind—is being better prepared from the top to the bottom, with the Government, the healthcare system and the general population understanding this kind of infection better and what needs to be done very rapidly to control it. We will change in that way.

Professor Susan Michie: We need to study the extent to which behavioural science has been applied in different countries and with what effect. We should not just get over this and move on without learning the lessons of what has worked well and what has not worked so well in this country and other countries.

The Chair: Does that mean more research, or just learning?

Professor Susan Michie: The best kind of learning is done through systematic research and collecting a variety of different kinds of data.

The Chair: I thank all three of you—Professor Yardley, Professor Michie and Professor Halpern—for helping us today. The session has been most enlightening. Professor Halpern, I know that we invited you at very short notice, so thank you for coming. I thank all of you very much.