

All-Party Group on Coronavirus - Oral Evidence Session 16

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Layla Moran MP

Welcome everybody to the session of the All-Party Group on Coronavirus where we're going to be focusing in on vaccination. It is a delight to have with us a really impressive set of panellists today, we're going to spend 45 minutes on two sessions and in our first session we have Professor Azeem Majeed who is a Professor of Primary Care and Public Health and the Head of the Department of Primary Care and Public Health at Imperial College London, my alma mater. Professor Majeed also has an international role in public health and primary care through his position as the Co-Director of the World Health Organisation Collaborating Centre for Public Health Education and Training at Imperial College. He is also a part-time GP and joins us between sessions clearly this morning, so it's a great honour to have him with us, thank you so much for joining us. And him and his pandemic have been supporting the international, national and local response to the pandemic so far.

Joining us at some point when she's able will also be, and I'll introduce her now so that we can get straight to it when she comes, will be Sophie Chester-Glyn who is the Director of Co-Produce Care. Co-Produce Care is a not-for-profit organisation, a non-profit organisation sorry, connecting people, communities and organisation to influence the decisions affecting the care community. Co-Produce Care have submitted a rapid report to the All-Party Group on vaccine uptake in the social care sector. We've got some specific questions for her later on.

But we'll get started if I may with Professor Azeem, so thank you so much. So, it's fair to say that with now well over 12 million people having received their first dose of the vaccine that the UK is steaming ahead with this and that's fantastic. What in your opinion is driving the success of the vaccine roll out in the UK so far?

Professor Azeem Majeed

Thank you Layla. I think it's three main factors, so one is vaccine supply, the Government and UK have done well in securing supplies of vaccine, Pfizer vaccine and vaccines from AstraZeneca and that's been a great asset for the UK, so we've done better than most European countries in securing vaccine supply because without vaccines we can't deliver a programme, so that was excellent [inaudible 0:11:04.8] vaccine supply and we have more vaccines coming in the Spring hopefully with vaccines from Moderna and then from Novavax once that's approved.

I think the second issue was the NHS has stepped up very well to deliver the vaccines so at a local level GP sites, regional level hospital sites and then some of the large vaccine centres. So, we've quickly mobilised the NHS, set up vaccine clinics very quickly and go those going at a rapid pace which has also been excellent as well, so thanks to all our colleagues in primary care and secondary care for the great work they've done in doing that, which is a great testament to our NHS.

And the third factor is the public, so the public we've been inviting are very keen to get vaccinated and clearly people don't want to get vaccinated, you can't [inaudible 0:11:49.3] in people so in the first group of people we're calling, the over-70s, the older people, the NHS staff, care home residents, there's a very high uptake of vaccine and so these groups are very keen to get vaccinated and so it's

been easy to call them in and to deliver the vaccine. So, I'd say those are the three key issues, the supply, the NHS mobilising and the public being keen to get vaccinated.

Layla Moran MP

Thank you so much for that and welcome Sophie, delighted you can join us, really appreciate it. I've quickly introduced you in your absence to everyone else. The first question we were asking is I think by any measure the vaccine roll-out in the UK has been a success so far, would you see it as a success from your point of view Sophie?

Sophie Chester-Glyn

Hello and thank you for having me on this panel. So, yes from our point of view and I will just say where we are positioned, so a couple of hats that I'm wearing, I'm a care provider in the South-West but also a Director of an organisation called Co-Produce Care and we delivered a report specifically looking at the vaccine hesitancy within the workforce within social care and we did find at the time, and that was in November and we published that in December, that there was quite a lot of vaccine hesitancy, more than in the general population. And of course there has been a lot of uptake since then which is good, but there's still a lot of hesitancy and last night I did actually do a Q&A with health professionals which very many people from social care joined and they're still asking questions and it relates to our recommendations and what we recommended back in December was that there was a lot more work to be done in terms of communication and dealing with the issues and the questions that people had around vaccination, about its content, about how it had been developed so quickly. A lot of the things that we're now quite aware of and obviously people still aren't getting the feeling that they're confident that they know the answers to those questions.

And one of the things that we did recommend is that there needed to be more targeted support for people from trusted leaders, the information needs to come locally, whether it was from GP's organisations because there still is some vaccine hesitancy definitely in the social care sector and of course those workers are very much at the front line. They're also made up of a lot of people of colour who are at high risk as we now know and of course it is a very gendered sector. So, there's still a lot of work to be done and the local approach, the trusted leaders' approach, is definitely one that works really, really well.

Layla Moran MP

Thank you very much. We'll certainly be coming back to a lot of those questions to dive into them. If I can ask Lord Strasburger.

Lord Strasburger

Good morning to both of you. With nearly 13 million first doses already administered but only a little over half a million second doses delivered, what is going to happen to the rate of vaccination of first doses once we have to switch to giving the second doses to those that have already had their first dose? What impact do you see that having on the rate of vaccination? Professor would you like to go first?

Professor Azeem Majeed

Thank you very much. Yes, a very good question, so clearly we've been giving largely first doses for the time being. In April we'll switch to giving first doses plus second doses which will double the workload effectively of the vaccine programme. That's fine, the problem with the programme has been vaccine supply so most sites report they can deliver far more vaccines than they've actually got so I'm optimistic that if vaccine supply can be improved and [inaudible 0:15:48.8] hold back doses for the second doses then I think the sites can stay up and increase their throughput so most sites I've spoken to, and I'm in touch with people from all across England, say they're working well below capacity in terms of vaccine delivery because of the lack of vaccine supply. So, I think if they're given the vaccines in April and later on during the Spring I think they can step up and meet the target of effectively doubling the workload because they've got to vaccinate the first, give people the first doses but also give people the second doses that we delayed for now.

Lord Strasburger

Well thank you, that's encouraging, Sophie do you want to have a go at this question as well?

Sophie Chester-Glyn

Yes, I think in terms of supporting the take up with the change in the dosage this has been set back a little bit because I think there was issues with trust in terms of the questions that we were having that came through, especially for our event last night, why has there been this change and am I still safe and does that mean that the whole vaccination process has been done properly and of course there needs to be a lot more work in terms of reassuring people that that is a legitimate change that people are still safe. But, I think it does put a little bit of a regional variation in terms of within services that we provide, some regions did have their second jab and some didn't and there was a little bit of difference across services, so I think that did make people feel a little bit concerned, but I think with more information that's being provided to reassure people then that's really not creating as much of a problem but obviously there is still some anxiety there.

Lord Strasburger

Well, thank you very much, back to you Chair.

Layla Moran MP

Thank you very much. Caroline Lucas.

Caroline Lucas MP

Thank you very much Chair, yes, I wanted to ask maybe I'll start with Professor Majeed how great an issue is vaccine hesitancy and who do we know are most likely to be hesitant about receiving the vaccine?

Professor Azeem Majeed

Yes, so again that's another very good question. So thus far as I mentioned we've largely targeted people who have got low rates of hesitancy amongst them which has been excellent. But we'll move

to groups where this is a bigger problem. So, from research we know there are a number of groups that are less likely to receive vaccines, so this includes younger people for example, so young adults tend to be less positive about vaccination. People from ethnic minorities tend to be less positive, in particular people from Black-African and Black-Caribbean groups but also Asian groups as well. Lots of people who are less well educated, often poorer backgrounds also [inaudible 0:18:32.4] uptake of vaccines as well so these are the three broad groups.

So, one is demographic younger people, the second are ethnic minorities and the third are people who are less well educated or poorer, so these are the three main groups we really need to work on over the next few months to ensure we achieve our uptake. Because these groups are at high risk, particularly the ethnic minorities and people in poorer areas are at greater risk of infection and complications and death from Covid-19.

Caroline Lucas MP

So, would you say it is really a very major problem in terms of the scale of the risks posed by this both to themselves and ...

Professor Azeem Majeed

It is a problem because with the new variants of coronavirus that are now circulating we do need to achieve a high uptake to ensure we can suppress the infection rates in the community, so if say one in five or one in three people don't get vaccinated that really would diminish the effect of the vaccination programme. Ideally we'd get 80-90% coverage of the vaccination programme, so if it drops below 90 or 80% its much less effective in terms of suppressing infection rates and it is an issue which we need to work on very hard and I think Sophie has already covered some of the key points we need to address moving forwards.

Caroline Lucas MP

Sophie, I don't know if you wanted to add anymore? I know our next question which I'll leave for a second is about what's driving it, but just in terms of who it is that is feeling that hesitancy, is there anything else you wanted to add?

Sophie Chester-Glyn

Yes, I mean from our report and I must put the proviso in that we didn't actually manage to reach out to that many communities of colour, but we did find that the hesitancy was very varied and the reasons we'll come onto later, but I know that the press has already discussed that there are certain groups who are particularly hesitant and of course we are very worried about that because of the higher risks and within the health and care sector they are exposed to more of society and they're working with people who have potentially Covid-19, so it is very much a worry and a concern that we do tackle that hesitancy where it exists.

Caroline Lucas MP

Thank you Chair.

Layla Moran MP

Thank you very much. Dr Philippa Whitford.

Philippa Whitford MP

Thank you very much, Chair. Obviously talking about hesitancy but you can almost imagine that with new vaccines in less than a year a degree of hesitancy is normal, people have questions. So, you know what's the key drivers, what would you say are the key concerns in those different groups you highlighted and what can we actually do about it, does it come down to Sophie's comments about communication, is it language, is it champions within communities or you know how do we actually reassure people who naturally have a lot of questions at this stage. If I start with yourself Professor and then Sophie.

Professor Azeem Majeed

Thank you Philippa, so again a very good question. So, from the surveys that have been done we know there are a number of issues that crop up when people discuss vaccines, there's always concern about the long-term effects of the vaccines along with short-term side effects. So, people like to know about the short-term side effects which can be normally mild but occasionally it can be more severe. The other concern is about the long-term effects as you mentioned these vaccines are quite new so unlike say measles, mumps, rubella where we've had them for decades we don't yet have long-term data on the safety for example. That will come over time that data but for now that data is lacking so it's perhaps understandable that some people have real concerns about the long-term effects because that data does not exist and won't exist probably for a few more years.

The other reason they give, common reason, is they don't feel Covid-19 is a problem for them, this is true probably for younger people who might get a mild illness and say well fair enough if I get a mild illness so what, it's like a cold or a mild case of flu. Perhaps forgetting actually that by getting infected they're putting others at risk, not just themselves but their older relatives, older work colleagues etc, people they come in contact with. So, I think for those groups we need to try to work with them to say well actually it's not just about you it's about protecting your parents, your elderly relatives, your older work colleagues, etc as well.

So, I think these are the main issues, so one is about the safety level and efficacy particularly the long-term effects and the other was about well Covid is not an issue for me. There is a third factor also which is the speed with which these vaccines were developed, so normally vaccine development takes a long time, these vaccines were developed within 12 months which is a great testament to our research industry partners. Some people are concerned about this even though the vaccines have gone through the usual checks that we would go through, the usual safety checks etc, research trials to show that we are safe and they do work.

Philippa Whitford MP

I mean obviously that comes back and again in a way to communication to explain to people that what got cut out was months and months of tedious bureaucracy and everyone working together.

Professor Azeem Majeed

Yeah, and raising money as well because that's the other issue with vaccines you have to raise money to develop them, in this case money was made available quickly and as you mentioned the bureaucracy was cut out and so we were able to accelerate.

Philippa Whitford MP

Obviously a recent surveyed showed really quite a low uptake among the black and Asian minority ethnic group which we know from the first wave are particularly vulnerable to serious disease, so is there a need for a different approach there, particularly community leaders or does it come down to some of the comments Sophie made about people believing stories about ingredients that might not fit with culture or religion, you know how do we tackle these kind of false stories that maybe making people anxious about taking it?

Professor Azeem Majeed

I think in those scenarios co-production is essential so working with local communities, local groups to gain their trust, you can't just come from Whitehall of NHS England with ideas, I think you have to work locally with local groups, local communities, places of worship, local societies, public groups and so on. There are examples from East London and South London in Tooting where the NHS has worked with local groups, used places of worship to meet people and offer vaccines and really work with those communities to try to address some of these concerns. So, I think really it needs local ownership, co-production and working at a local level rather than coming down nationally with ideas and solutions. And what works in Tooting may not work in Newcastle or in Manchester, so we do need local initiatives and local solutions to address these concerns.

Philippa Whitford MP

I mean Sophie, obviously not having a big section of the care staff not vaccinated would eventually provide or create a risk to the people that they're looking after and obviously co-production is your raison d'être. So, what things within the care staff community do you think particularly need picked up to try and encourage them to get vaccinated?

Sophie Chester-Glyn

Yeah, it's a really good question. There were four themes that came out of the research that we did last year, one was around the side effects, the efficacy was another, age and existing health conditions was another. But also the fourth was around transparency and trust so and when you looked at the comments that people had around that it was the fact that well, you know the way the pandemic had been played out very early they didn't trust that what the Government was doing now was something which was going to help them and then digging down into further conversations some of the people who replied to our report have got very good international connections, so they either aren't themselves born here or they just have family abroad and the way that the UK's response to the pandemic has been on the international stage was obviously quite negative at that point. So, they were having views from family who were saying to them watch out, just be careful of what's going on in the country that you're in. Obviously that hopefully will change now with the vaccinations but there's still work to roll back with that trust issue.

So, I think coming again back to having trusted people in trusted places, locally, I know in Bristol they're thinking of vaccination mobile centres, of having not just religious leaders but also organisations, maybe some ring-fenced money that can go to organisations so that they can create some trust within their organisations, care organisations, to answer questions directly because a lot of what we know, we hear on the airways all the time so it's quite incredible that just hearing exactly the same message from someone in your community can change someone's mind and so I think that's really, really powerful. But yeah, definitely going back to that and trust is quite important.

Philippa Whitford MP

Finally, Sophie in Scotland there was evidence that care workers were actually being targeted here with misinformation, I wonder is that something that you've come across in England, our Government had to then run quite an extensive series of webinars and other approaches to answer frequently asked questions, but I just wonder have you seen literally that maligned disinformation targeted at care staff or is it just the general disinformation?

Sophie Chester-Glyn

Not necessarily seen that much disinformation actually coming from care staff, or misinformation from anywhere, it really seems to be quite innate and to do around trust, to do around just not really thinking that maybe they need it, so no we haven't actually come across anything that's specifically targeted at the care sector.

Philippa Whitford MP

OK, thank you very much, thanks Chair.

Layla Moran MP

Thank you very much, Munira Wilson.

Munira Wilson MP

Thank you Chair. Can I just explore a bit further the extent of the challenge in terms of vaccine uptake across the care sector, I know Sophie you submitted your survey to us, there were also reports earlier this month of some providers such as HC1 having as many as 80% of staff not having received the vaccine, so is this the case across the care sector, is it different based on the providers and also is there a difference between care home staff and domiciliary care staff who go from people's private home to private home and what's driving this, is it just hesitancy or are there logistical issues too?

Sophie Chester-Glyn

Yeah, another great question. I'm not aware of any evidence around the different parts of the sector and where the hesitancy is, I think there probably will be, if there was some sort of enquiry into that it would probably show that some organisations with leaders who are able to talk their staff through the issues and the queries that they have are having greater success. I think it very much is that response within organisations of how they're managing it which makes a difference. So, certain

strategies and information sharing on that would be helpful. But, I'm not aware of any specific data that shows where it's having more of a problem but I do know from discussions that we've had that it does appear to be sort of smaller care homes are having quite good success with bringing people round and having those personal conversations with their staff. And very much the approach I've heard people thinking about do we need to have something where we can use employment contracts to make people take the vaccines, that has been touted quite a bit and then really combatting that by saying that is absolutely not the road to go down for various different reasons and more of a risk based, risk management personal approach, finding out what issues people have rather than a punitive approach is the way to bring people and the whole team together.

Munira Wilson MP

So, if I could just press again because you're focusing largely on hesitancy among individuals to take up the vaccine but we have heard reports of sometimes when vaccines have been taken into care homes there have been sufficient for residents but not for staff and equally I've heard from some regional NHS leaders in terms of domiciliary care that agencies are not allowing staff paid time off to go and get vaccinated at hubs and obviously they're already on extremely low wages, so are you not picking that up as a problem, do you think it's largely hesitancy?

Sophie Chester-Glyn

Well this is something that we haven't particularly looked at ourselves because our report was sort of November/December but from what, it's absolutely a really big problem that the way that the implementation has occurred across the sector is varied, so you'll have some organisations who will pay staff like you say, some organisation who might not and there isn't any particular guidance to say how providers should be using certain monies and of course it's very nuanced across the sector and without a doubt that will play into it, the more support people get financially obviously there's more likelihood that people are able to take up the vaccine but it's probably more of a diverse nuanced picture rather than any one thing.

Munira Wilson MP

OK thank you, I don't know if Professor Majeed if you had anything to add on this topic?

Professor Azeem Majeed

I think Sophie has addressed the issues well, so within homes I think it probably is more about vaccine hesitancy within the care home staff, as you mentioned for other workers that might work for an agency going from home to home, there are issues like access, cost, etc are important and we need to make sure that employers do give them time to actually go for their appointments and encourage them to take up the vaccine because they are putting people at risk if they've not been vaccinated.

Munira Wilson MP

Thank you.

Layla Moran MP

Thank you very much. Baroness Brinton.

Baroness Brinton

Could I just pick up on the last question, in England far fewer care homes staff were vaccinated at the care homes with their residents than they were in Scotland. Are there any lessons there for the future and in particular is that one of the reasons that we've seen more hesitancy from care home workers, Sophie?

Sophie Chester-Glyn

Again I can't speak specifically to any research that we've done on this issue but from what we've seen on the ground and we are in touch with a lot of care organisations and in our own organisation we had the first jab where we had to go out to have people vaccinated and the second jab was had on the premises and obviously having it on the premises is logistically much easier for care organisations and having been through both of those situations it's so difficult. We've also seen outbreaks in certain homes where there's been a variation in terms of whether people were coming in and doing vaccinations whilst people are in the midst of an outbreak or whether GPs or whoever is managing the vaccination there are comfortable doing that and I think some kind of making this more accessible and that does come back to our report as the accessibility of vaccination and making it local and making it very easy for people to get to is absolutely an issue and would affect the take up.

Baroness Brinton

Thank you. What must the Governments do in order to maintain the current levels of success of the vaccine roll-out? Could I start with you Professor Majeed?

Professor Azeem Majeed

Thank you Baroness. So, I think there's a number of issues, one is clearly vaccine supply, we make sure we've got enough vaccines to keep on with the programme and expand it during the Spring when the numbers will increase and I think we have got held back vaccines for second doses. The second I think is really working with local teams, so I think the NHS has an inclination to work, think about big national regional vaccine hubs, whereas actually if you look at the figures the vast majority of vaccines have been given by local teams, by GPs and their colleagues, nurses etc, by pharmacies. So, I think we need to avoid this idea we need these massive vaccine centres everywhere. We need to I think first of all invest locally, in local primary care teams, use our pharmacies much more, pharmacies have not been used fully yet for the vaccine programme but they have great potential to do a lot more vaccinations than they are at the moment.

So, my first message is really invest locally, invest in primary care teams, invest in pharmacies, give them the IT they need, the funding, the staffing, the vaccines so they can work at full capacity. There is again my colleagues and I speak to them that they are concerned that some of these large vaccine centres are being prioritised for vaccine supplies, for example, which is meaning their own vaccine teams locally are not getting enough vaccines. So, I think the first priority should be to work locally before thinking about these vast regional centres and make sure that vaccines are sent to where they're needed rather than these regional centres first.

Baroness Brinton

Thank you, that's very helpful. Sophie.

Sophie Chester-Glyn

Yes, I would absolutely agree with Professor there because we've seen instances where people, care staff, are reluctant to go to the vaccine centres. A lot of care staff do work very locally, not all of them are drivers, so having it somewhere where they can get to either on foot or access very easily is really, really fundamental. And also coming back to the issue of location there's an idea that when you are all together, whether it's in the care home and vaccines come to you you've also got the extra impetus from being around colleagues who are taking it, seeing how other people, older people are taking it and that also adds to almost a community feel of bringing vaccination into something that we've all got responsibility to have potentially. So, there are lots of benefits in doing it locally like that.

Baroness Brinton

Thank you, back to you Layla.

Layla Moran MP

Thank you very much. Baroness Finlay.

Baroness Finlay

Thank you. I wonder if I could ask you about the group of people who've got learning difficulties, so the younger age group who are in care. Some of them have got profound disabilities and are in care homes, others are being looked after by a team of carers in different forms of supported living and some are actually in their own homes and I wondered if you've got any evidence at all of difficulties in take-up, there's been a lot of concern in that group that they haven't yet been called, yet they have a six-fold death rate and whether there is a way that they with their carers as almost a group bubble should be being vaccinated rather than left to come through the age type systems.

Professor Azeem Majeed

Thank you Baroness, again a very good question about a group with complex health needs and I know for many years you have been campaigning for this group. I think there's two ways to address this so one is some people are living in the care homes so they can be addressed via the process of teams visiting care homes and vaccinating staff. The people at home are more complicated, so [inaudible 0:38:21.1] it's only two weeks ago we were given vaccines we could use for people who are house-bound so for a long time we had no vaccines that could be used in house-bound patients which is one of the areas we didn't succeed on unfortunately. But we have now got vaccines that we can use for people who are house-bound or largely live at home and so for the past two weeks we have started visiting people at home. Mainly elderly but some younger people as well to vaccinate them so hopefully that programme will start across the country.

But I would like to see this group prioritised not just based on age but based on health needs which as you mentioned they have a high death rate, much higher than the background population. So, I'd hope that now we've got the vaccines that are more stable to use, the one from AstraZeneca, we can accelerate the home delivery and really target this group proactively in the coming weeks.

Baroness Finlay

Sophie, do you have anything to add from your experience with those groups, particularly the younger learning difficulties groups?

Sophie Chester-Glyn

Yeah, absolutely. So we've found that actually a lot of those groups are quite eager to take the vaccine and because it's time critical unfortunately we've seen people who probably should have been on the list not take it and then there's been outbreaks and the worry of course is that as you will know from other statistics that people with severe learning disabilities and autism, sometimes also have multiple health issues and of course compounded with that you've got the unknown of Long Covid, so I think looking at who gets the vaccine and which settings they live in needs to really be re-looked at because there's a lot more detail and information that needs to be unpicked around the risks of people getting Covid-19 who may have underlying health conditions and what affect that might have on them in the long-term, even if they aren't at risk of severe illness from the vaccine straight away or death.

Baroness Finlay

And do you think we actually need a central policy change going back to the JCVI?

Sophie Chester-Glyn

Yeah, that's exactly what's in my mind, yeah.

Baroness Finlay

Thank you. Thank you, Chair.

Layla Moran MP

Thank you very much. Barbara Keeley.

Barbara Keeley MP

Yes, just a quick question, I've had constituents who after 11 months of shielding have felt too fearful to attend for their vaccine either at a hospital or a vaccination centre, although they're not people who are housebound, they just couldn't attend. I just wonder if that's experience picked up elsewhere and because clearly it would have implications for the workload of the vaccine roll-out as we sort of move across the population. So, Professor?

Professor Azeem Majeed

Thank you very much, it's a very important issue for people who have been shielding, they are very anxious about going out and being placed at risk of infection. So, my own practice, like other practices, we offer a Saturday clinic so when there's no one coming other than people getting vaccines, so people come at regular time intervals when they come they're not mixing with other patients who are coming for other reasons, so it's just a clinic just for people coming for the Covid vaccination. So, I think for those groups we can address that by ensuring they're offered appointments at times when clinics and centres are quiet and aren't being used for anything other than vaccination so they're not being placed at risk of infection because it is a group that if they do get infected would be at high risk of complications and death. So, there are ways we can plan for this group, so if we know who they are we can offer them appointments on weekend when they're not going to mix with other people and not be placed at greater risk of infection.

It's about working with people to find out about their needs and ensure their needs are met and their anxieties are allayed.

Barbara Keeley MP

OK, thank you.

Layla Moran MP

Sophie, did you want to come in on that?

Sophie Chester-Glyn

No, I don't think I'm best placed to answer that one actually.

Layla Moran MP

Thank you very much, Lord Russell.

Lord Russell

Yes, Professor Majeed could I ask you, could we ask you three questions with your WHO hat on, the first is are there particular lessons you think we should be learning from other countries' experience. Secondly, what is your view of what is known as vaccine nationalism and thirdly how do you think we should coordinate the international response to the new variants which keep on coming over the horizon rather quickly.

Professor Azeem Majeed

So, in terms of international lessons the country which has done best on vaccination is Israel, so they secured vaccines at a high level per capita basis and mobilised their healthcare system to deliver the vaccines. So, I think they offer lessons to other countries in how they've done that. How **inaudible**

0:43:13.4] systems to monitor the effect of vaccines, so they're very good at for example in looking at the side effects of vaccines [inaudible 0:43:20.9] very quickly on side effects and on the effects of the vaccines so I think we can learn from places like that. Although we are probably well above average so other countries can learn from us as well.

In terms of vaccine nationalism that clearly is a problem as we've seen in recent weeks, the vaccines are in short supply globally, even rich countries haven't got enough vaccines for their populations but I think this is an international problem, countries need to work together, often vaccine supply chains have products that come from different countries, so for example the Pfizer vaccine relies on chemicals that are made in the UK for example so it's not as straightforward as the EU banning exports of Pfizer vaccines, these are complex products that require countries to work together.

Hopefully as vaccine supply improves, which it will do from the Spring onwards, these issues will drop into the background somewhat so I know that Pfizer will increase their supply, so will Moderna, new vaccines will be approved and licensed from the Spring onwards and hopefully we'll have a much greater supply of vaccines by late Spring, early Summer so some of these issues will resolve in the background.

In terms of new variants clearly that is a big problem and this may well require new vaccines or vaccines that are updated regularly, so I think already the Government has raised the idea that after the two initial doses given to people, people may need a booster dose every year to counter changes in the virus and any mutations that might make it more infectious and more dangerous. So, I think in some ways this is not like a one-off programme, this vaccination programme. It's going to be with us probably for a long, long time so it may end up like flu vaccination but on a bigger scale where people get annual boosters every year to make sure they're protected against new variants.

But the good news is we have the technology to identify new variants and the technology to make vaccines that will work against these new variants, there are new techniques we have got, we can rapidly produce and test vaccines against new variants so that's a positive step, so I'm hopeful for the future, although it will mean more work for the [inaudible 0:45:20.0].

Lord Russell

Could I just follow up on that, I mean we're very fortunate in this country in the sense that our genomic sequencing capability means we can identify new variants very, very, very quickly. What can or should we do to try and share and spread that capability so that it can be picked up more quickly in other countries where may of these variants may start?

Professor Azeem Majeed

Yeah that's a very good point, so as we've seen some of the more dangerous various come from places like Brazil and South Africa where their technology is less well developed than the UK, so I think we need to share our technology with other countries, you know we need to raise funding from global funders to ensure that poorer countries can also sequence the gene structures of the coronavirus so that we are not surprised by a new strain that appears say in India or in Zambia or somewhere and suddenly it appears in the UK. So, I think we need a global network of genomics surveillance so we can pick up these new strains quickly and if these seem dangerous or more infectious we can then work with our industry partners to develop vaccines against those strains very promptly and we'd aim to deal with them then and there.

Lord Russell

Thank you Professor, back to you Layla.

Layla Moran MP

Thank you very much, we're very nearly at the end of the session but I have one final question which I'll address to each of you in turn, perhaps starting with Sophie. What keeps you up at night at the moment, what is the thing that you're most worried about in the immediate and medium term, Sophie?

Sophie Chester-Glyn

Oh, lots of things, I'm eight months pregnant at the moment so that keeps me up at night a lot! No, I would say that I am quite worried about people in the care sector, like what I said before really, I'm worried that we're already starting from a low base in terms of pay and conditions in comparison to our health colleagues, especially with things like sick pay, if people are contracting Covid-19 simply because of the fact that they are out there on the front line and yet they don't have for example six months full pay sick pay like they might have on the NHS. I'm worried about those inequalities, I'm worried about the inequalities in terms of communities of colour and it really is the longer term effects of Covid and I think we have to use this opportunity to think what do we need to change strategically across the social care sector to make sure that it's strong and it's fit and the very gendered nature of the workforce is taken into account and that we are supporting those people within the workforce because you know the idea of relational autonomy, we need to make sure that those people are well and well looked after, will impact on the ability of the country to recover going forward.

So, it's a really much bigger remit than what obviously this conversation is about but there are knock on effects, so it is very important you know what you're doing to highlight the issues, not just amongst health but also social care.

Layla Moran MP

Thank you so much, and the same question to ...

Professor Azeem Majeed

Thank you, that's a very good question. I think probably two things if I can make two points, one is the vaccination uptake in the UK which means that we don't suppress the infection in the UK and we end up with large outbreaks, big pressure on the NHS, so I think we really need to work hard to ensure we get a high uptake of vaccines in the population to really suppress rates to a low level. And secondly really pulling on Lord Russell's question globally, if we don't suppress the infection globally we will see new variants emerging across the globe and in particular low income countries which haven't got the same vaccine supply as richer countries, we may see the infection become endemic into further mutations and perhaps mutation which is so dramatic that vaccines don't work against it. So, I'd hope we can work globally to really ensure that not just the UK and Europe but other countries can also access vaccine supplies that can really help them suppress the infection so we can control this globally and not just within the UK.

Layla Moran MP

Fantastic. Well thank you both for your time this morning, it's been incredibly informative, you are of course very welcome to stay for the second half of the session although I appreciate you are both incredibly busy people and if you rush off we won't be upset, but just once again to say an enormous thank you to Professor Azeem Majeed and Sophie Chester-Glyn for your time this morning, really, really appreciate it, thank you so much.

So, if I may I'm now going to move onto our second session and we have with us again two very eminent contributors and we're delighted to have them with us. I can see Professor Deborah Dunn-Walters. I can see Andrew Pollard is here, ah there he is.

Professor Andrew Pollard

Hello there.

Layla Moran MP

Wonderful, thank you so much both of you for joining us, so a very quick introduction to those who don't know you, although I know very many will do, so we've got Professor Andrew Pollard who is the Professor of Paediatric Infection and Immunity at the University of Oxford, Honorary Consultant Paediatrician at Oxford Children's Hospital. He also chairs the UK Department of Health and Social Care's Joint Committee on Vaccination and Immunisation, or had chaired although at the moment you are the Primary Investigator for the AstraZeneca inquiry at the moment, so am I right in understanding you're recused yourself from JCVI temporarily?

Professor Andrew Pollard

For all discussions on Covid vaccines yeah.

Layla Moran MP

Thank you very much. And you also contribute to the WHO's SAGE Group if that's ...

Professor Andrew Pollard

Yes, but also recused myself on Covid vaccines.

Layla Moran MP

Understood, thank you so much. We've also got Professor Deborah Dunn-Walters who is the Professor of Immunology at the School of Bioscience and Medicine, Faculty of Health and Medical Sciences at the University of Surrey. She's also a Trustee for the British Society for Immunology and chairs the British Society for Immunology Covid-19 and Immunity Taskforce. So, thank you both very much and actually my first question I totally appreciate that Professor Pollard you may not be able to answer but in very general terms I think what a lot of people want to try and understand and perhaps Deborah might help us in absence is how are these decisions being made, what is the process in general terms for both the priority lists but also after one to nine has been done many people for

example have called for teachers to be put higher up the list, how are those decisions going to be made. Could you give us any insight, Andrew?

Professor Andrew Pollard

I mean perhaps, I'm not involved in those discussions so I don't know how those decisions were made, but the principles are the same as we do with all vaccines which is the prioritisation is done on the basis of clinical need and that's how the different categories were worked out before. And those relate to two sort of driving forces, one is what is the risk of severe disease and death and we know that the strongest risk factor is age and so that's why that prioritisation is there. And the second is around the risk of disease and so that is particularly a problem for healthcare workers who have been so much in the frontline, and social care workers. And so that's the reason for that initial prioritisation. Once you get beyond that you get into a realm where there is much more lack of information and granularity about whether one person in one area is more at risk than someone else and I think when you get to there it becomes much less of a scientific decision and much more about what's the best way of managing society, so that's my take but as I say I'm not involved in those decisions and I suspect others would be better placed to comment further on that.

Layla Moran MP

No, thank you very much. Deborah.

Professor Deborah Dunn-Walters

Yes, like Andrew I'm not involved in the decisions but I can only reiterate what he's said to a large extent that it's who is at most risk of dying from the disease or getting serious illness from the disease. I don't think people lose sight of the fact that there's also risk of transmission got to be factored in as well later down the line, once you've dealt with the people who are really most at risk there are lots of modellers who are saying well, you know who's transmitting the disease most and maybe that would be, so you then start balancing the risks of transmission around the population with risks to the individuals as well. So, I think that does get factored in a lot and so there's a lot of people who kind of keep an eye on this and they do write letters into JCVI and the Chief Medical Officer's office if they have questions about the decisions that are made, so there's perhaps more oversight than people would imagine on some of these things because if someone thinks oh yes, but you know maybe Policemen should be vaccinated first because they're more likely to be in contact with the public then they'll write a letter and those things will be considered and people, the epidemiologists doing the modelling will actually look at things like that and just to check whether the right risks are being balanced.

Layla Moran MP

Thank you very much. Do you have a personal view about you know the question around teachers, police officers so on and so forth, at what point should that transmissibility aspect be factored in greater than it has now? Sorry, Deborah then Andrew.

Professor Deborah Dunn-Walters

When you ask somebody to model these things you ask them to put everything into the mix so you ask them to put all the different age groups and all the different kind of social connections and their risk of getting illness from the disease and so you ask them to model the whole thing together and largely it drops out that the people most at risk, the age groups, the older age groups are the ones that definitely need vaccinating first.

Layla Moran MP

But then after that it's, so transmissibility and risk will be more balanced in terms of what drops out, is that what we're expecting?

Professor Deborah Dunn-Walters

At the lower age groups I would expect that yeah, it would work out that people who can transmit, you know who have got more social connections you know working in public facing roles a lot would be the ones that would be more likely to catch the disease.

Layla Moran MP

Thank you very much. Andrew.

Professor Andrew Pollard

Well I think given the data that we have just made public over the last week which showed that for the variants that we have in the UK at the moment that what Deborah says is absolutely right that having an impact on transmission, if we could vaccinate all those who are the spreaders we'd actually be ahead of all of this, it would all be over because we could then just stop transmission. If you stop the virus in its tracks its fine and we've got good evidence that with our vaccine, and it will be true for all of them, that we can have a substantial impact on transmission at least as an assumption that if you can stop people being PCR positive which we can, then they wouldn't transmit. So, that puts us in a great position if we were thinking of policy for last week.

The problem is that we're not really ... we're going to hopefully with lockdown and the vaccines get this current wave of disease under control but the real question is what is the next wave of disease going to look like, what's it going to be with and the difficulty that we have is this virus is changing, it's changing all the time and it will be changing all over the world, most of the time we're not aware of it because no one is sequencing the virus in those corners of the world. But those new variants will arise to escape from immunity so that the virus can still transmit.

So, going after individuals who are transmitting is really helpful in that it can halt a wave of disease, but only if you are dealing with a vaccine that is well-matched to the particular variant that you have at that moment. And of course, we don't know what the next wave of spread will look like and it could well be that it's with a variant that we're not prepared for, and then there'll be further spread afterwards because coronaviruses live with us normally, we have them all the time and they still spread between people every few years, even though they've developed immunity. But the good news is that we don't get severe disease with other coronaviruses and all the data that we have from the vaccine so far is even with the current generation of vaccines there is a big impact on severe disease. So, there's a high chance I think that we could be in a position later in the year, whether

there's a new wave of spread, but as long as we've got lots of people vaccinated in the population we won't see so many severe cases at all and we'll be getting ahead of that bit of it, but we may have a much bigger problem in stopping transmission.

Layla Moran MP

Thank you. There's a million and one questions I have off the back of that but I know many of them will be asked by colleagues in a moment, so Susan Masham.

Baroness Masham

Initially the advice from the World Health Organisation was not to delay the second dose of the vaccine, can we be confident that the UK has taken the right approach? Have other countries adopted a similar approach? I have to declare an interest as I had the Pfizer vaccine, the first one, on the 30th of December and three weeks later I had my appointment for the second one, I arrived to find the centre closed and nobody had told me and I'm now without a second dose. So, I am interested in this question. Could I have Professor first, both Professors but Professor Pollard first.

Professor Andrew Pollard

Thank you, well we have got data from our trials with the Oxford AstraZeneca vaccine showing that after the first dose that protection is high and it continues all the way up until the second dose before it is boosted. So, I think we have pretty secure data that that dose interval is safe and actually that it may actually be a good thing because you get a better response to the second dose if you wait for the three months instead of waiting for three or four weeks. So, I think from that perspective I think it's absolutely the right decision, it's supported by the European Medicines Agency who said you can have your dose anytime between four and 12 weeks and the World Health Organisation deliberated yesterday on this and will I'm sure have their policy out sometime this week. So, I think you know when you look at the 50 regulators around the world they have almost all approved that three month interval for our vaccine.

With the Pfizer vaccine we don't have the same level of evidence because those studies of looking at the delayed second dose haven't been done, but from the biological principles that JCVI have used show very high protection after the first dose and then an assumption that that protection should continue, but actually when you look at the modelling of it even if it was to catastrophically decline over that period we are better off as a society to vaccinate more people to get that initial protection than to be selfish and give two doses to a smaller number of people. So, we have a much bigger impact on reducing people in hospital and dying if we delay the second dose. So, I think the decisions are really based on solidly on the science and the modelling which says it's much better for our population to do it this way. Given that there's a shortage of supply today.

Baroness Masham

I was going to say Deborah.

Professor Deborah Dunn-Walters

So, I absolutely agree with Andrew you know the data for the Oxford AstraZeneca vaccine is clear that there's no deleterious effect, it's beneficial to have a longer time period. Because the Pfizer vaccine has been given at a three week interval and there hasn't been much variation from that there is no data, hard data, to say yes, you still have the antibodies, you know at week eight or whatever. However, there's a lot of immunologists who would use their knowledge and predict that that would be the case. There's not many people that would argue that it wouldn't be the case. You might expect some decline in antibody. I think a lot of the worry about decline in antibody might have arisen from the initial data that was coming out when people were monitoring immune responses after the disease itself which the antibodies appeared to decline really rapidly and people were extrapolating those curves and saying oh look it's all gonna be gone after two months. But in actual fact I think there's probably a two-phased response going on when you've got the disease and that's going to be different to the vaccine and these are all data that we will find out in time.

So, from the point of view of the British Society for Immunology you know a lot of people, you know I get asked a lot of questions on this, there's a lot of our members who are quite exercised at the thought of not going along with the evidence from the phase three trials and the Pfizer, however, the real world data that's coming out now in Israel people are saying it doesn't agree with the phase three data that came out when you just look at that time window, weeks two to three. But, I think they're measuring something different. Quite often people measure different things, so the phase three data was just looking to see if people got any symptoms whatsoever of disease, they could have just had a bit of a cough and nothing else and they would have gone down ... and that data said there's going to be an 89% efficiency at that particular time window and we wouldn't expect it to decrease much more than that.

The Israeli data that's been coming out from I think it's Maccabi Healthcare, they've not been just looking for disease, they've been looking for all instances of virus and that in itself is quite encouraging because they're actually looking and saying this actually stops you getting the virus whereas before Pfizer didn't really have any data on whether it stops people getting the virus. So, I mean I think in short also what we have to remember is any data coming out of Israel they've got quite a large proportion of the new variant there so the original Pfizer phase three data was you know on the old variants that matched the vaccine better than the new variant currently does. So, looking at the evidence overall I don't see anything that makes me think there would be any harm in doing this, in extending this.

That was our primary concern when we all sat round the table, well we didn't sit round the table there were lots of emails flying around arguing about it. The primary concern was would this do any harm and we didn't think it would, so you know our position paper was we can understand that there's a huge prevalence of the virus in this population and there's a limited amount of vaccine and so you know the way to maximise everything was to increase the dose and we think that that was in the end the best decision. Well, I have to ... I'll be honest with you, not everybody thinks it was the best decision, there's still lots of arguments going on about it but you know we've had communication from Australia from people down there who've criticised down there and they've said you know don't get us wrong, if we were in the situation that the UK were in we would make exactly the same decision because different countries are in different positions. We have a high prevalence of virus and we need to get that down and with the limited amount of vaccine this was decided to be the right decisions and we didn't think it was going to be any harm.

And I should just say also that these strategies of vaccinating and then having a second dose is what we call priming and then boosting so looking at the immunology in the data you can see that the boosting effects of the Pfizer vaccine is really quite quick and you get, if you're just measuring the antibodies and the T-cells that are there, so there's obviously the memory cells sitting around waiting

to be boosted and there's nothing to say that if you did happen to see the virus in the supermarket or wherever that itself wouldn't act as a booster.

So, I think you know on balance I personally think it was the right decision to make but I understand that there are some scientists who absolutely wanted to go the line and I really understand the disappointed that people have had through not getting their second dose. You know it requires a couple of months more patience I think. But I do think there is still protection there.

Baroness Masham

I have one more quick question for them. Because the public need information I've got a question down for a written answer to ask the Government if they'll consider having a helpline on coronavirus so that people can ask questions, do you think that's a good idea?

Professor Deborah Dunn-Walters

If you can find the people willing to man the helpline, I think it might be a good idea. I'm not sure you'd be able to find the manpower actually to do that. The BSI have recognised and it was talked about earlier, vaccine hesitancy and needing to know more information about vaccines, how safe they are because they were developed quickly and everything else and before Christmas we recognised at the BSI that there were huge amounts of questions that people had, so there's anti-vaxxers who really wouldn't want a vaccine under any circumstances, but then we were finding you know groups of medical students where 50% of them were saying oh well we wouldn't want the vaccine for X, Y and Z reason. And so a huge effort has been made and co-opting everybody, there's 4,000 members in BSI or whatever and started the vaccine conversations begin at home or in your local community type issue, so we have lots of our members whenever they've got time who are running local webinars, collecting the common questions that arise and then that's collated in the BSI office and we use that to produce the frequently asked questions and the Q&As and now the BSI office is working with the Mayor's Office in London to produce some videos. We have our volunteers from the black and minority ethnic communities who are going to make short videos and these will also go together with all the other information packs that the BSI have been producing as tools that people can use to help explain.

And I think if I had to sit on a helpline asking questions, my voice would probably give out by the end of the day anyway and you know the other day we had a webinar with 1,000 people and you know a 20 minute this is why the vaccines came out quickly, this is what they do, this is what they do to help and then you know a couple of hours of questions and answers afterwards and we can record that thing and then pass it round and I think that's perhaps a more effective way of distributing information.

Baroness Masham

We could have experts like you tick boxes and lots and lots of volunteers, I'm sure there'd be lots of volunteers and experts like you giving the answers but a tick box like 111.

Layla Moran MP

Thank you very much. I have a quick follow up if I may to what you said Deborah just to better understand, so you were saying colleagues in Australia were saying they don't need to follow the same

strategy as us because their prevalence is lower, is that ... just to be clear about ... in different countries being linked to prevalence I think is quite interesting because that's a factor we haven't totally taken into account. I mean is it bluntly because we have so many more deaths per capita that actually that needs to be our focus when other countries can choose a different strategy or have I misunderstood that?

Professor Deborah Dunn-Walters

If you have a country with no cases of the virus in it there's no urgency for them to act and you know the scenarios under which they're making their decisions are very different than our decisions are. You know we were at Christmas in quite a dreadful situation and decisions were made accordingly, you know. So, my opinion is yes it was a very brave decision to suddenly go against what Pfizer had said because Pfizer had run a 20,000 people in each arm, 21-day dose within two days or whatever so to make the decision not to do that was a brave decision and I still don't think it was the wrong decision and it is being carefully monitored and hopefully we'll get out data out soon and I'm sure there's lots of other countries who are in a similar situation to us worrying about the spread of the virus being more than they would like who are looking very carefully at us for when this data comes out.

Layla Moran MP

Thank you very much. Andrew do you want to come in?

Professor Andrew Pollard

I think it's worth saying that if we were advising the Australian policy committee today we would be recommending that they use a three-month interval because you get better immune responses with a three-month interval so it makes sense to do that and as long as you have supply, and there's no disease, you should optimise the immune responses. And so I'm sure they would choose that approach with the evidence that there is and they'll have a lot more data coming from the UK very soon as well.

The other issue I think here which is important just to mention is that the UK has a history of a very innovative immunisation programme and so although Deborah classified it as a brave decision, it is a routine decision at JCVI to look at the science, use our understanding of the immune system and the data on the modelling to make decisions and so I wouldn't classify it as brave I would classify it as a typical decision that JCVI makes.

Layla Moran MP

That's a very interesting insight and thank you very much. Philippa Whitford.

Philippa Whitford MP

Thank you very much Layla. If I could start with yourself Andrew and then to Deborah, obviously there is a lot of concern about the South African variant escaping from AstraZeneca and obviously the potential of the P1 variant from Brazil as well. Are we seeing more variants emerging now when you consider that we're ... I know we've had genomic changes but big variants, is that just because of increased transmission and therefore replication and big mutations or do you think there's a seasonal

component because obviously it's our winter but equally it's South Africa's summer. So, you know I just wondered what you think with that and how long will it take to modify the vaccines we have? I think there's a recognition we are looking at annual vaccination so you know how quick do you think your vaccine could be changed to actually be more effective against the South African and Brazilian ones?

Professor Andrew Pollard

I think that the first thing to say is that the virus is changing all the time, it will be throwing up lots of mutations every time it replicates and in transmission, but most of those new variants don't survive because they're not as fit as the ... like our B117 Kent variant which is a super-charged version of itself. And I think it's quite interesting to look at the situations in which these new variants have arisen. The Kent variant, the B117 arose at a time in the South-East of England where there wasn't very much immunity, not that many people had been infected and it has entirely appeared because it just transmits better than what was there before and the thing that this virus has to do is to spread in order to survive in human populations, so it's got an advantage and it's spread better.

In South Africa and in Brazil the numerous changes that there are, the numerous mutations that there are are largely directed at avoiding human immunity and that's because in the first wave in the two regions where the variant arose a lot of people got infected, so the only way that virus could survive was by the versions of itself which evaded human immunity could then start to spread and so that's why those ones are ones which we're more worried about from the vaccine perspective. And as I said we've seen in South Africa that even in people who were infected in the first wave, this new variant spreads quite happily amongst them and causes mild infection.

So, I think on that background as we move to a point where more people are immunised around the world or have natural infection the virus will only survive if it's able to make new versions of itself that can still spread from our throats to another person's throat despite that immunity. So, I think we have to come to terms with the fact that that is going to be the future. The question at this moment is are we going to need new vaccines, not to prevent that spread because I think we're going to have to live with that, but new vaccines to stop people going into hospital. And at this moment the jury is out on that, all of the vaccines in the trials are in those regions that we're talking about where new variants are emerging but we are not seeing a sudden shift so that lots of people who were vaccinated are ending up in hospital, they're still being protected from hospitalisation.

Now, we need more data to be absolutely secure on this and we will be gathering that in all these different countries but if that's the case we might need boosters, we might need tweaks every year, but actually we might not, we might be generating enough immunity with the current generation of vaccines to stop severe disease. And you know I think we need to test that hypothesis and in the meantime we can't afford to be complacent so we have to have new vaccines ready in case we need them and if for example as you know we have the B1351 South African variant here in the UK there is a reasonable chance that that could spread in the future. I mean it'll be controlled by the lockdown at the moment but it could spread in the future, we need to be prepared for that and to have vaccines ready for the autumn and I don't think there's any difficulty with all the developers in being ready to do that, all of the new work is going on here in Oxford, at AstraZeneca, Pfizer, Moderna, Novavax, all the developers are getting prepared for new versions to be ready if we need them.

Philippa Whitford MP

Are you disappointed that in the study there was no direct impact on asymptomatic spread, obviously there was a reduction in symptomatic and obviously particularly severe disease as you say but

obviously part of the issue with coronavirus is people spreading it when they don't know they have it and it's then when it meets a vulnerable person it becomes an issue? So, is there more work going on on specifically if you like transmission studies and are you afraid that if the South African version spreads here we could end up with a mutation that combines the two, the 117 with the South African, so you get a very infectious version that actually our vaccines stop working so well against?

Professor Andrew Pollard

So, I think the first thing is the study in the UK that we've done, which is not about the South African variant but about the variants we have here, shows two things. One is that if you look at the total group of people which is those who have symptoms and those who don't, overall there's about a two-thirds reduction in people who are positive. Now if you take out two-thirds of the people who can transmit from the population then we will have a big impact on transmission. Now we haven't done the transmission study which is to prove that no-one in their family got infected, but it's pretty clear to me that if you have that two-thirds reduction in people who have a positive PCR then they're not going to be able to transmit the virus to anyone else.

Now, that one third who are still positive despite being vaccinated actually have less virus in their nose and then shed it for a shorter period of time, so both of those will make them less likely to transmit. So, I think overall we would expect the vaccines that are well-targeted towards the currently circulating variants to have a huge impact on transmission. We haven't proven that but we have proven that there's a bit reduction in the amount of virus that's there. Now that's a different situation from South Africa where the vaccine did not prevent transmission and I think that will be the case regardless of which vaccine it is, but we've only addressed in South Africa that question which is really, really important, it confirms what we thought which is that the virus that's mutating away from human immunity will mutate in a way that will stop it from being ... that will allow it to still transmit despite being in a vaccinated population.

I think I mean the last bit of your question was you know really about could we end up with some super-strain. I think, I mean that's always possible but the most likely thing is that new versions of this virus will continue to be made iteratively that allow it to better transmit in the population and the question is does that matter, are the vaccines still going to be good enough to stop people going into hospital or dying, because actually if people have just got the sniffles I think our job is done. But at the moment we need to be prepared for a risk that we have to do these updates maybe every year or maybe less frequently but as new more dangerous variants appear. But let's be optimistic that maybe we'll have cracked it.

Philippa Whitford MP

So, maybe some of it is managing expectation that the vaccines are part of our response, they're not a magic wand that lets us all go hang out in the pub sitting on top of each other hugging and kissing, or at least not in the next few months. Deborah do you want to add anything on those kind of topics around transmission and variants?

Professor Deborah Dunn-Walters

Yeah, I mean exactly what you just said that the number of conversations I've had with people and it comes down to the public understanding what decisions are made and why, you know I've had my vaccine, I've waited two weeks, why can't I go to the pub type questions are quite important and you know when you get into the nuances of how this works and why some of the things that I read, you

know in our local community on social media, people say well it's not a vaccine if it doesn't stop the virus spread, you know there's quite limited understanding and as scientists we struggle to realise that not everybody did O-Level biology, you know we've got to try and work hard at our communication here.

I think the current vaccines although we say you don't know for sure that you can't spread it so you've got to be careful, I think there is reason for optimism there and as Andrew said all the vaccine companies, we can't stop investing in vaccine development because you have to be on top of this to try to get one step ahead of it if you can. And there maybe things like going for perhaps more IGA and nasal cavities which might stop transmission even more and things like that, so you know there's a lot of vaccine development I think that can still be done to help this.

And also, there's some work that needs to be done to investigate what are the limits of this viral mutation because the biophysics guys are doing modelling to see what possible mutations can this virus have that could evade the immune system, is it limitless, you know are we in a never-ending race against it or are there going to be some quite sensible limits on how far it can go.

Exactly what Andrew said, we don't think we're going to completely get rid of this at this point in time but if we can stop people going into hospital or getting Long Covid then that's going to be the win and even when ... I mean the number of different mutations that occur if you look at the papers where they're sequencing all these things in huge, but then the immune response is huge as well and it's also very dynamic, so you know we shouldn't forget that not only have we got a really diverse immune response to a vaccine but that can also adapt itself on boost or on challenge with virus, the memory cells that are there can come out and they can ... if the original repertoire of antibodies is slightly off now that it's seen a different mutation in the virus there are still mechanisms which can help move it back in the right direction for that particular virus, it just might take a bit more time which means that you might get a very mild form of the illness.

So, there's whole different levels of immunity all the time and investing in seeing how you can improve that immunity is great, but I think we should be optimistic in the meantime that hopefully we can stay on top of this, I'm always optimistic but we'll see.

Philippa Whitford MP

Thank you very much, thank you Chair.

Layla Moran MP

Thank you very much. Baroness Brinton.

Baroness Brinton

Yes, thank you. Professor Dunn-Walters you've just laid the pathway for my next question and thank you for the BSI briefing on immunity and Covid-19 which has been really helpful. You say in that document that those with other factors mainly those who are shielding at the moment, there isn't necessarily the evidence yet that they will be able to create the antibodies needed. I know that there are some trials underway to test that at the moment, do we have any idea when we will know better about that? But your report also says that we're going to need to look at what is available for them if everyone else starts to live back as normal but we have a group in society who have no protection at all.

Professor Deborah Dunn-Walters

Yeah, that's a really good question because there are some people, some immuno-deficient people who can't make very good responses at all. So, there's a whole database that the Academy of Medical Sciences is running now for people who are looking at other therapeutics other than vaccination. You know that is still important for people because vaccines rely on your immune system being healthy in order for them to work and we know that older people are less able to make good responses to vaccines in general, so we're still waiting for a lot of data on that to come through but we've been assured that it's not going to be that long. But it's a question of you know we've vaccinated the older population but the older population are very good at looking after themselves as well, so in order for the data to accrue unfortunately it means people have to catch the disease.

So, there are still questions about how effective these things are in all the different populations that we have and people with different underlying conditions and we're hoping that it won't be too long before, I mean we've so many people vaccinated now that the real world data will be coming through and we should be able to get some answers on that soon, hopefully.

Baroness Brinton

Thank you and you mentioned the issue about using non-pharmaceutical interventions or other routes other than vaccines, some people who have total faith in vaccines are saying that everyone should be living back to normal straight away, can we expect other forms of treatment such as antiretrovirals to become part of the strategy to tackle Covid or is it always going to be a mixture. Perhaps I could start with Professor Pollard.

Professor Andrew Pollard

Yes, I think absolutely one of the things for the future will be to expand on the armoury of ways that we have of tackling the virus and so I think as has been said we would expect in the future there still to be some people who are susceptible in the population even with high vaccination rates, not everyone is going to even take the vaccine. But I think a lot of the strategy at the moment is about trying to get it to a point where it's manageable but then if you have people admitted and are severely ill, we still need to cater for them. And those treatments we know we've got some already like Dexamethasone which was one of the first to be tested and shown to have a big impact on mortality. But there are lots of other approaches being developing including monoclonal antibodies and antiviral drugs as you mentioned. So, I think lots more work to be done still and I'm optimistic that we're going to get into a better place with optimising management of cases in the future.

Baroness Brinton

Professor Dunn-Walters, did you want to add anything to that?

Professor Deborah Dunn-Walters

No, I think we've perhaps said everything that we need to on that.

Baroness Brinton

And finally, from me we have had two very good evidence sessions from people suffering from Long Covid, is there anything do we think that vaccines will impact on the changes of individuals developing Long Covid or is it too early?

Professor Andrew Pollard

I mean I think the vaccines have been very good at preventing significant Covid illness and Long Covid is particularly associated with having had a significant illness, so again I'm optimistic that the vaccination strategy will start to drive those numbers down considerably as time goes on.

Professor Deborah Dunn-Walters

Yeah absolutely and there's a lot we don't understand about Long Covid and the mechanisms behind the different manifestations of it and the immunology of it but that's really getting into the weeds of what's going to happen. On a broader level if you've driven down the prevalence of virus by having a really good vaccination programme and you're protecting people individually then you would fully expect that you would see a lot less Long Covid around.

Baroness Brinton

Thank you.

Layla Moran MP

Thank you very much, Lord Russell.

Lord Russell

Yes, this is a question for both of you and it's really to do with the strategy going forward, we have these variants which are going to be popping up in various parts of the world and particularly perhaps in parts of the world where they don't have the advanced genomic sequencing capability we do so therefore they may not pick it up very quickly and as you've said various companies are already looking at next generations of vaccines. Can you just sort of tell us your understanding of what is the cycle time likely to be in developing new vaccine strains, do you expect that to accelerate, i.e. will the time before we can develop new ones start reducing as we get better and better at it, how will one prioritise between one company's vaccine strain two, three, or four and others, who is going to prioritise that, how are we going to decide which ones to use and when and of course that needs to be done internationally not locally, so that is a very simple question first of all for you Professor Pollard.

Professor Andrew Pollard

Thanks very much for giving such an easy question. Well, I think the first point, you're absolutely right in some ways the variants we know about are easy because we can deal with those but there will be others that we don't know about and I do think it's important that what has been the WHO influenza network that that is further strengthened to build the additional capacity needed to reach out further

into the regions where those laboratories are to make sure that we've got good sequencing much more broadly than we have at the moment to give idea about new variants.

And there's two approaches, one is to deal with the variant that's in front of you which is perhaps where we are at the moment, we're looking at the B1 Brazilian variant and the B1351 South African variant particularly. And obviously that international surveillance, as we do with flu, is a good way of being ahead of the game in knowing what's popping up in different parts of the world, having new vaccines either on the shelf already because maybe in the future we'll predict what's going to come here and be ready to switch perhaps with WHO's advice about which is the right new variant to be dealing with in a particular season or year. So, that maybe the longer-term future that we can get to that point.

The other way which I think is particularly attractive with the huge advances in structural biology is to look at spike protein which is the component of most of the vaccines and say well how could it change, how could we make the right combination of spike proteins that would cover an anticipated change the virus might bring in. That's somewhere, you know I feel we're on the edge of that bit of science at the moment in understanding this relationship between structural proteins and immunity, we may not be there this year but that could be a future, and I think for future pandemics if we can think in a depressing way, that actually is how we're much more easily going to be able to cope with them and particularly with these type of viruses which can mutate so readily in the future.

So, maybe we're not quite there but I think this pandemic will drive us much more closely to a point where we can be more predictive in the future of how variants may change. And the last bit in terms of the timelines, if we were looking at influenza we're really talking about a six month timeline so what we do each year is WHO makes a decision based on the viruses that are circulating in the Southern Hemisphere in their winter and then that is used to inform which viruses will then go into the vaccines we use in the Northern Hemisphere and vice versa. For these types of vaccines for coronaviruses because we're not having to go through the same complex process of manufacture that we do for flu vaccines it should be possible to do that within two or three months and at the moment the way that that happens I guess has three main steps, the first is that you have to formulate the vaccine which is knowing what sequence is going to go into it and put that together and for all of the vaccines that's a matter of a very few days in fact to do that. The next bit is to start manufacturing, there will be some variation in the different vaccines on how long that takes because the processes are slightly different and then the last bit is at the moment we do need to do some small clinical trials maybe in 100 or 200 people which would be done just to show that in humans this new construct, new vaccine construct, still makes the sort of immune response against the new variant we would expect.

So, that process needs to be put together and it will be the first time that we've done it for all of the developers and I think that could get a bit shorter, some of those steps can be shortened and where we've got to with flu is that we don't need the clinical studies anymore because it's so easy to predict what will happen and I think we could get that with coronaviruses in the future which will make it much quicker.

Lord Strasburger

Thank you very much, Layla probably back to you I think we're almost out of time.

Layla Moran MP

Well thank you very much, if we can spare just one more question, we'd be really grateful of both of you, Baroness Finlay.

Baroness Finlay

Thank you, a very quick question, given that we know that these mutations are going to carry on happening irrespective of how much vaccination has occurred, are there studies going on over other concomitant preventative strategies which have a theoretical basis but as yet unproven such as vitamin D supplementation across the population, use of ACE inhibitors to diminish viral binding in the nose and other such strategies?

Professor Deborah Dunn-Walters

I'll quickly say because I'm on one of the rapid response committees for the BBSRC that I know of quite a number of studies that are going on at the moment for those kinds of things, so you know people are looking at how the vitamin D and how you can improve your immune system, whether it makes any difference, I know there's a lot of people looking at that. There's a lot of people looking at interferons and ACE2, there's an awful lot of research going on that's been ... the UKRI office has been working absolutely flat out over this last year in trying to manage all the biomedical scientists who've thought I wonder if this could help and have come to them with the projects. So, there's a huge amount of work going on that we don't see and some of it may never come to fruition because with this last year people have been more likely to take the high-risk, high-reward type projects because it is a big reward if you can find something that helps sort it out, so there's an awful lot, there's an awful lot going on yes.

Baroness Finlay

I just hope all the results will be published, negative results as well because we can learn a lot from them all, thank you.

Layla Moran MP

Thank you very much and I'll end with the same question I asked the previous panel and it very much helps us, what at the moment is your greatest worry for the shorter and medium term for this picture, perhaps Deborah then Andrew and then we'll close. Deborah.

Professor Deborah Dunn-Walters

I mean I say I'm optimistic but I am, I would feel a lot less worried if the biophysicists could convince me that there are limits to how many different variations you can get on these viruses because there's things that could happen like glycosylation which might suddenly block a whole load of antibody binding sites and things, so you know the fact that it can change so you know we need to do something about reducing prevalence to reduce the chance of this changing until we get on top of it, that's what keeps me worried.

Layla Moran MP

Thank you very much, Andrew.

Professor Andrew Pollard

Well I'm also an optimist like Deborah and I think for the UK we can be very optimistic, we've got a vaccine programme that's rolling out with remarkable efficiency. We've got the tools in place to be able to make new vaccines if we find out that we need to do so or to offer boosters, so we're in an extremely good place.

The thing that worries me is about the rest of the world, it's about distribution and equity which I think is a moral thing which is very important to be considering. But there's also a selfish reason in that for our health security we do not want this virus transmitting wildly in other countries and potentially bringing back a more dangerous mutation here, so there's a health security reason why we need to be much more outward looking than we are today. And secondly there's an economic reason that if all our trading partners are still suffering from coronavirus outbreaks our economy is not going to recover either, so I think we've got to ... absolutely for me is the moral imperative is the key one but there are also important reasons politically why we really need to move this on much more rapidly than we are today.

Layla Moran MP

I mean just on that, the WHO has asked for some parallel roll-out is that the answer in your opinion?

Professor Andrew Pollard

Yeah, I mean we've got the problem of a very, very short supply at this moment and so we've really got to try and find ways of making sure that the most vulnerable, wherever they are in the world, are protected as soon as possible.

Layla Moran MP

Thank you very much both of you, that was an incredibly useful and interesting session that could have gone on for many hours, I'm sure that would have been interesting for us although I'm sure you've got many other important things to get onto. So, thank you so much for your time. Thank you to everyone who's been watching and to our Parliamentarians. Next week is recess so there won't be a meeting of the All-Party Group, but we'll certainly be back the week after that with more evidence hearings. So, thank you so much, thank you for your time. Take care and stay safe everyone.