Transcript: Webinar - COVID-19 challenges and solutions 10. New variants of COVID-19: extent, impact and response | 3 February 2021

Watch the webinar

During this webinar our audience submitted their COVID-19 IPC questions to our expert panel.

Panel members:

- Professor Judith Breuer, Professor of Virology, University College London
- Dr Muge Cevik, Clinical Lecturer in Infectious Diseases and Medical Virology, University of St. Andrews
- Professor Jim McManus, Director of Public Health, Hertfordshire County Council
- Dr Lisa Ritchie, Head of Infection Prevention and Control, NHS England and NHS Improvement

Chair: Jincy Jerry, Assistant Director of Nursing in Infection Prevention & Control at Mater Misericordiae University Hospital, Dublin, Ireland. Member of HIS Professional Development Committee.

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Jincy Jerry 0:05

Good evening, everyone. Thank you for joining us today. This is our 10th audience-led webinar on the COVID-19 challenges and solutions. Today's webinar will focus on new variants of COVID-19, extant, impact and risk. This webinar is hosted by the Healthcare Infection Society. My name is Jincy Jerry. I'm Assistant Director of Nursing in Infection Prevention & Control at Mater Misericordiae University Hospital, Dublin, Ireland and also a member of HIS Professional Development Committee. Apologies for some background noise behind me that as an air conditioning unit working beside my office. So as always, we have a fantastic panel of experts here to share their thoughts on a broad range of topics related to new variants of COVID-19. While we are waiting for more audience to join it might be useful if I ask all the panellists to introduce themselves. So if you could start over to you Muge.

Muge Cevik 1:16

Hi, everyone. My name is Dr. Muge Cevik. I'm a clinical lecturer in Infectious Diseases at University of St. Andrews, Department of Infection and Global Health. And I'm also an infectious diseases clinician.

Jincy Jerry 1:33

Thank you Muge. Over to you, Jim.

Jim McManus 1:37

Thank you. Good evening, my name is Jim McManus. I'm the Director of Public Health Hertfordshire in the United Kingdom, and I'm the Vice President of the Association of Directors of Public Health.

Jincy Jerry 1:56

Thanks Jim, Judy?

Judith Breuer 1:57

Hello, everybody. I'm Judy Breuer, I'm Professor of Virology at UCL, a Consultant at Great Ormond Street, and I'm a member of COG-UK and Director of the Pathogen Genomics Unit at University College London.

Jincy Jerry 2:11

Thanks Judy. And we are waiting for Lisa to join, she probably will join us soon over the telephone line. Before this webinar, we asked you to put questions to the panel. We have selected the eight most popular questions for the panel to discuss during the first 40 minutes of the webinar. During the last 15 minutes of the webinar, we will answer live questions which you can submit via Slido. Throughout the event, you will also be able to use Slido to express your opinion by voting online. Please do download the Slido app, and when you open the app, you can add #HIS this will put you through to

the live stream and you can use the Slido app the express your opinion on polls. This webinar is going to be recorded and it will be available afterwards for anybody that couldn't make it today. So please feel free to pass on the word. I think Lisa has joined us. Lisa, you might introduce yourself.

Lisa Ritchie 3:24

Hi, I'm Lisa Richie. I'm Head of Infection Prevention Control at NHS England and Improvement. Apologies I've had some technical problems.

Jincy Jerry 3:40

Thank you, Lisa. We are all learning with the technology now recently. So great. Let's move on to our first question.

Question 1:

There has been a rapid resurgence of cases in the UK and Ireland since the lockdown ended in November. Was this because the lockdown was released too soon, before the numbers had fallen significantly, or was it driven by the new variant?

I'm going to ask Jim to take on the lead on this please.

Jim McManus 4:15

Okay, thank you very much. I think the short answer is due to a combination of a number of factors. Firstly, it seemed that we had widespread discontinuance of compliance behaviour, if you like, in that stigmatized people, in just using technical, psychological terms. And lots of people were doing things that should have been outside of it. Plus, people had already started their Christmas shopping, and were socializing, I mean, know that the number of enforcement activities went up, they certainly did in my area, because we were issuing more closure orders and things. And so there was more social interaction than there should have been. We also know that modelling from the Jude Institute the Judge Business School of Cambridge, suggesting that the lack of closure of schools added an extra 20 to 40% of the circulation virus. So it was never going to be as effective as the first lockdown in spring 2020, anyway. The third factor was that I think a lot of people have got lax. I think you will see from

common exposure records, that a lot of people are attributing shopping and various other settings as settings of infections. Then, I think there was a fact that people were genuinely confused. Lots of people still think you can get right next to one another, if you wear a mask. And then finally, what was quite clear, was that, at the very time, the numbers should have been coming down just before we took off the lockdown on the 2nd of December, actually they started to go back up again. And this started in the southeast of England. And I do have some slides that people are welcome to have, which shows that the new variant, the new UK variant B117, was the exceeding new infections in Kent in the southeast, and then it spread into my patch in Broxbourne, which neighbours Essex and Enfield, neighbours London and so is one of my districts, and then spread across London and spread across the other areas. And we can see that actually those areas that were tier four, just before Christmas, which was quite a lot of Southern England, were actually driving a sharp rise in infection that had we not had would have been going in the other direction. There was also a significant amount of additional testing behaviour went on. So I think lots of people were getting tested early for Christmas in the hope that they could do some socializing, if they were negative. So there were a series of perverse incentives to in a way, what we got was almost a kind of a, an epidemiological perfect storm, if I can put it like that.

Jincy Jerry 7:17

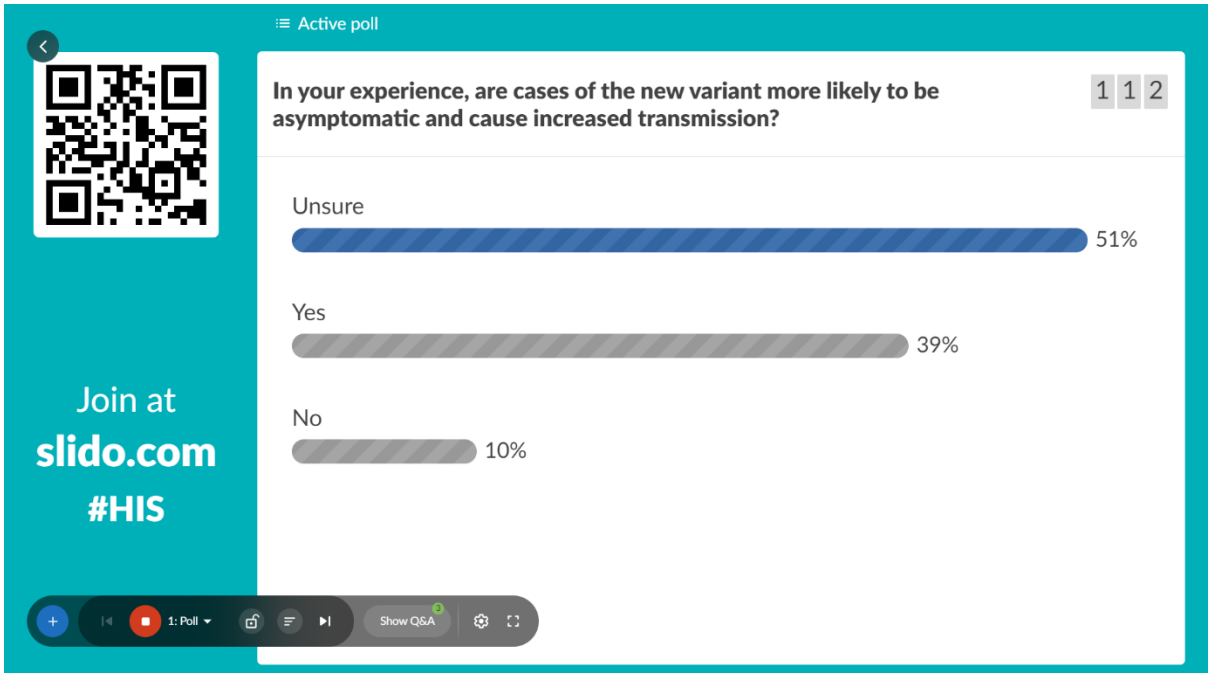
Thank you so much, Jim. And I think still that bit of background noise from my side, apologies for that. And anybody else got anything to add to that question?

Judith Breuer 7:34

I would completely agree with Jim. And I think one of the interesting things about the genomics was that when you analyse the data at that time, all the lineages were going down, other than the B117. And despite there being some measure of lockdown, this this variance was increasing. So I think that sort of is, you know, an example of how something that is just a bit more transmissible defies these halfway measures.

Jincy Jerry 8:10

Thank you so much, Judy. Any other comments from any other participants? Okay, so I think let's focus on everyone's mind into our first poll question. So please get your Slido and start voting. So, our first poll:



Just give it a couple of minutes. Okay, so I think people are a little bit uncertain. But yeah, majority of them feel they're unsure about whether the new variant has resulted in increased transmission. Okay, great. So thanks for everyone for voting, and we'll proceed to question number two.

Question 2:

How prevalent is the UK variant in other countries in Europe and elsewhere? If transmission of COVID does not significantly reduce, how likely is it that a new variant of COVID will emerge?

Judy?

Judith Breuer 10:11

Thank you. We don't really know how prevalent the new variant, the B117 is in Europe, because our data depends on how much sequencing is being done in different countries. So countries that are doing a lot of sequencing are seeing a an increase in the B117. And clearly, you know, the evidence

that we have that it's more transmissible in this country, when now it's nearly, if not more than 90% of strains have been B117, certainly in the southeast, and in the areas where it's been spreading. Certainly, in some places like Denmark, where they do a lot of sequencing and the Netherlands, they are seeing the same sort of trajectory of this of this variant. But there are large parts of Europe where they're not doing very much sequencing, we have no idea just how prevalent the virus is, we think that it's likely to spread, you know, to any country that has it, once it's there, and provided there aren't other variants, then that will be a variant of what's already there. But we don't we just don't know exactly how, how prevalent it is. And that goes for the rest of the world, I mean, even the USA, the amount of sequencing is tiny. I mean, the UK has done an amazing job, in that in the amount of sequencing data that's available, it's really sort of paradigm shifting, actually been completely changed the way we do public health in this country. And that has given us a huge amount of information. And we're really able to track it very, very finely throughout the whole of the country. But there are very few countries in the world that are able to do it in the same way. So we don't know. And what's more interesting is we don't know what's going to happen when the B117 meets the South African or the Brazilian variants, we just don't know whether one of those will be more transmissible or less transmissible, or, you know, this is happening three different variants and different continents behaving in the same way. But we just, you know, we need a lot of really good quality sequencing to work out what's really happening.

And what was the second part of the question? Is it likely there's a new variant emerge if we don't control transmission? Well, absolutely. And that's already happened. We know that the B117 has now acquired a mutation that is associated. I mean, the B 117, has less association with evading neutralizing antibody. It's less clear that the mutations evade antibody in quite the same way. But the E484K mutation, which has now been acquired by a few strains of B117, is definitely something that we know is evades antibody. So the more that the virus transmits, the more it's able to mutate and acquire characteristics that allow it to become fitter. And as more and more of us become immune through vaccination or through natural infection, the virus is going to find the space that allows it to escape and continue to infect other people. And essentially, preventing transmission is a good way of actually preventing mutations accumulating. So certainly that is going to continue to happen as we have transmissions and you know that the policy of getting vaccines out to as many people as possible in the hope that we can actually not only protect individuals, but reduce transmission across the country is really a very good one. We need to just bring those rates down. And together, the rates of transmission going down and growing immunity that should hopefully slow the likelihood / reduce the likelihood of mutations accumulating

Jincy Jerry 14:16

Thanks, Judy, and any other panel members would like to add their comments?

Jim McManus 14:27

Thank you. I completely agree with what Judy has said. But I think that there's something really important in what she said, for public health, especially at the end of the greater transmission, the greater risk of variance. And I think we have risked getting people into a mindset of how much we can get away with. Certainly, we managed that over the summer. And we had that just before Christmas,

we almost created a game where if you could actually understand the restriction regulations, you then tried to work our way around some of them. And the mindset we want people in is, how can I be as safe as possible, because if I'm as safe as possible and stop transmission, I am a barrier not only to me being infected, but to actually creating new mutations and new variants that evade the vaccine. And the the amount of work we're having to do to explain this about the vaccine. Because people are assuming "Well, I've got the vaccine, now I can go and hug all my grandchildren". You know, I've just had it and five minutes later, I can go kiss everybody I've seen in the supermarket. And I do think there remains a big education challenge that we really need to push. Because the vaccine is being treated as a silver bullet, when it clearly is not yet. It is very welcome. But Judy's words couldn't be more important, I think.

Muge Cevik 16:04

If I also could add, yes, I mean, I definitely agree, which has already been said. And also, I think we need to look at upstream causes of infection, where these cases are stemming from, I mean, even when we look at November lockdown, there was a background community transmission. And when we look at where the majority of cases are coming from, it's mostly from deprived areas, you know, people working in low paid jobs, and key workers. And we're seeing that in the mortality data as well. So I guess like, we already know that COVID-19 has widened some of the disparities. And this might be also, you know, adding on to the pressure, because if there's an ongoing background, community transmission in these communities, then there will be more chances of ongoing spread to the rest of the society.

Jincy Jerry 17:25

So that's really insightful, so we'll go to the next question.

Question 3:

How many COVID variants have been identified worldwide? Have they resulted in increased transmission and more severe symptoms? Is there a possibility of reinfection for previous COVID positive individuals with a new variant?

Yeah, go ahead Jim.

Jim McManus 18:10

Well to say that's a movable feast is probably an understatement. When I looked in October at new variants, there was some work done in the European Union that suggested that they were looking at at least nine different variants of interest, not of concern. There are many variants and I will paste a few links in the chat for people to look at at their leisure. There are at least five which are of greater interest, of which there are definitely three of concern. So there's B117, which is the UK variant as we know, which was detected in the UK in September 2020 and has spread, well, by two weeks ago it had spread to 23 certainly European countries with cases in the United States. And then there's the South African variant 501YV2, which was detected in October 2020 in South Africa, and was detected in the EU on the 28th of December, and I'll come back to that. And then there is P1 which is the Brazilian and Japanese variant. As Judy said, we also have this mutation, which seems potentially to have been independently acquired by B117 in the UK, which is potentially another worrying factor. All of these variants seem to show increased transmissibility from what we know. The South African variant seems to possibly show reduction of vaccine effectiveness. But we don't know. There are questions from the Brazilian and the Japanese version as well. And of course, in my area, and on Sunday there were, well on Saturday there were six local authorities in England that were being asked to test, to do more genomic analysis on the South African variant of interest in a cluster of cases that were not linked to travel. And my area was one of them. On Sunday, there were eight local authorities and 11 cases not linked to travel. And yesterday we added Birmingham and Bristol with the E484K variant. And it seems that there are more local authorities. So I'm currently in the middle of testing, or offering tests to 17,000 people and 10,000 households in one of my areas. It's a huge exercise. I think it raises a number of serious questions for us and we need to have a strategy that expects the virus to mutate, that tracks symptoms because there is certainly anecdotal evidence and views that the new variant is causing a lot more people to have hypoxia in the community. And there are some fears around symptoms. And some fears around, or certainly our hospitals are seeing increased acuity. And we were seeing that before Christmas and we're still seeing it. So a public health strategy from my perspective would mean, let's welcome much more genomic sequencing. As Judy says, we are leading the world, let's smash it even more and do more. Let's get a very clear strategy again for what we do with variants. And the exercise that is happening live as we speak, is actually writing the playbook for future variants. But we should have had this year in 2017. We know viruses vary, we know viruses mutate, we expect variations. So why haven't we been prepared for this nationally and internationally from before? I'll stop there because I'm conscious of time. Hopefully I've answered that question. If not, please come back at me.

Jincy Jerry 22:40

Thanks Jim that was a very comprehensive summary. I'll briefly open this up to the panel. Does any panel member have any comments?

Muge Cevik 22:50

I think I could also add that, you know, I agree with what has been said. But we also had another mutation early in the pandemic, that was D614G. That basically became globally dominant form by,

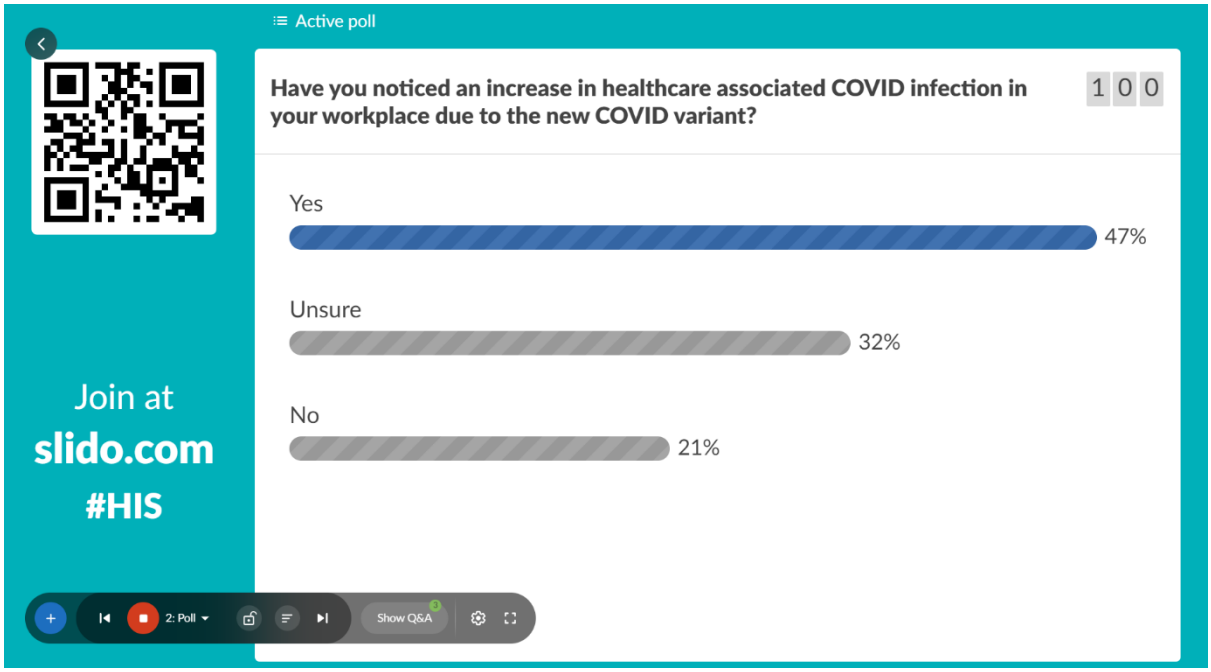
you know, summertime, and we didn't actually know whether it was more transmissible or not, because at the time we didn't have the genome surveillance systems in place. So yes, I mean, I think we already know that, you know, ongoing transmission means more mutations. And, you know, there are several reasons why variants may arise. And, you know, some of them are just selective pressure during treatment or during viral persistence. And, you know, the more people is reached by the virus, there will be more opportunities for it to mutate. And, I mean, it basically tells us that, you know, at the moment, I think there are 73 countries who have the UK variant, and it basically tells us that we need to basically do everything possible to bring down community transmission, and also look at the, you know, reasons why there's an ongoing community transmission and how we could support to prevent onward transmission. One of the things that we've been concentrating is like testing, for example. But testing on its own can't really bring down infections. So the only thing that can bring down infections is self-isolation and quarantine. And we need to look at how this is done, like in local communities or also regionally. In the UK, I think at the moment, for example, self-isolation is not perfect, I think only one in five people are able to self-isolate for the duration. So there are several things that could be done to support those people to be able to self-isolate. So the main aim of testing should be to bring down infections. And that could only happen when it's linked to an intervention, which is self-isolation. And that needs to be happening with some support, you know, income relief, maybe housing support for people or caring support as well. I will pass on to Judy.

Judith Breuer 25:15

Yes, I wasn't going to say, I mean, I think we're probably running out of time for this question. So I was going to agree with everything that's been said. A couple more points, but they're not that important. I'll save them.

Jincy Jerry 25:35

Conscious of time, we will just go to our next poll question.



This actually leads us nicely into our next question.

Question 4:

Some professional organisation and societies have suggested that FFP2/3 masks should be worn by healthcare workers in non-AGP and non-COVID areas. This has caused anxiety and confusion about correct PPE amongst healthcare workers. What PPE should be worn in COVID and non-COVID areas?

I would ask Lisa to take this question please.

Lisa Ritchie 26:57

I can understand staff anxieties, and the perceived protection from wearing a respirator rather than a surgical face mask. But the available evidence, including that from leading international agencies, such as the WHO and CDC has reassuringly not identified a change in the mode of transmission between new variant strains and previous circulating strains of SARS-CoV-2. And it's also advising that PPE is only one measure, as people have already alluded to, to prevent transmission of COVID-19. And the mitigating measures outlined in IPC guidance are of equal importance, if not greater importance. So the current infection prevention and control guidelines published on the gov.uk website is aligned with other international agencies in the use of PPE, in particular the use of FFP3 or equivalent respirators. The consensus view of CDC, WHO and ECDC from scientific and technical briefs in regards to the epidemiology of SARS-CoV-2 concludes that COVID-19 is predominantly spread via respiratory droplets, but has the potential to spread by the airborne route when aerosol generating procedures are undertaken. So the use of FFP3 respirators is therefore required when undertaking AGPs on patients known or suspected to be infectious with COVID-19, and in those COVID areas, and this is consistent with the current UK IPC guidance which recommends an FFP3 respirator with eye or facial protection to be worn in the medium- and high-risk pathways that are set out in the guidance by healthcare workers when an AGP is being performed, and also worn sessionally where aerosol generating procedures are undertaken for COVID-19 patients who are being managed in cohorted areas. So other relevant supporting information that has been reviewed to result in the IPC PPE recommendations includes firstly, a SPI-M paper estimating the importance of different routes of SARS-CoV-2 transmission in hospital settings. And that states that the most likely source of nosocomial transmission to healthcare workers was other infected healthcare workers, and that the risk of a healthcare worker acquiring COVID-19 from another healthcare worker was similar to the risk of

acquisition in the community. Secondly, there was findings of work carried out to map COVID-19 related to staff absences against community-acquired COVID-19 between June and December of last year, and that indicates that in areas where the new variant is prevalent, there is no current evidence that staff absence rates are higher than would be expected given the current (and that was December time) community transmission rates that were found. And then thirdly, the most recent data on results of healthcare worker lateral flow device testing, and that's twice-weekly testing in England. The scheme currently was up and running early January 2021, and there's about 2.4 million tests have been taken. And that showed a positivity rate of less than 1%, which has not changed in the last month. So there has of course been circumstances published in CDC and WHO scientific briefs where aerosol transmission of SARS-CoV-2 appears to have occurred. And these circumstances include enclosed spaces, prolonged exposure and inadequate ventilation, but also notably are associated with outbreaks in non-healthcare facilities. And importantly, to add to that the detailed investigation of these clusters suggests that droplet and fomite transmission could also explain the transmission that would include inconsistencies with other IPC measures such as adherence to mask use, maintaining physical distancing, and hand hygiene, for example. And SAGE has also advised that there's currently no evidence of any association between the new variants and increases in transmission in particular settings and that there is no evidence for differences in routes of transmission or different survival on surfaces. So, reviews of current available evidence have not identified a change in the mode of transmission between new variant strains and previous circulating strains of SARS-CoV-2 and therefore no change to the PPE recommendations have been made to the UK IPC guidance. What is recommended is an FFP3 respirator with eye or face protection to be worn in the medium and high-risk pathway by healthcare workers when an aerosol generating procedure is being performed. And in these pathways an FFP3 can be worn sessionally where aerosol generating procedures are being undertaken for COVID-19 patients being managed in a cohort area. In the non-COVID areas, low-risk pathways, PPE as per standard infection control precautions should be worn, and that includes the extended use of face masks, or face coverings for patients, in addition to social distancing and hand hygiene for staff, patients and visitors in both clinical and non-clinical areas to further reduce the risk of transmission. With regards to the use of FFP2 respirators, as that was highlighted in the question, I mean, it does raise the question of what type of respirator is recommended for use in UK healthcare settings. There are three categories of filtering facepiece respirators: they are P1, P2 and P3. And the FFP3 respirator offers the highest level of protection and hence that one being the one that's recommended for use in UK healthcare settings by the Health and Safety Executive. My understanding is that some European countries will use FFP2 and not FFP3 as is current policy. The HSE advice in the UK is that we would not recommend the use of FFP2 unless we were in contingency measures, as these provide a lesser filtration rate than FFP3. I have heard it said that an FFP2 respirator was being considered by some as an alternative to a fluid-repellent surgical facemask in order to provide a better fit to the face. A couple of reminders, I think the use of eye/face protection such as face visors or shields are recommended to protect the wearer from contaminants such as spraying or splashing to the eyes and mucous membranes, in addition to wearing a face mask. And the other thing to be borne in mind is that all FFP respirators require to be fit tested. This is an HSE requirement. So it's not a simple swap-out of an FRSM to an FFP2, for example. And finally, just to say that the evidence will continue to be appraised and reviewed, and if there is any evidence of airborne transmission in healthcare settings when other IPC measures are applied outwith the aerosol generating procedures, then these will be addressed in the guidance and we will respond to the service in that regard. So, I'll stop there, thank you.

Jincy Jerry 34:38

Thank you, Lisa, it was a very good summary and very useful and very clear. I think you are right in every sense there. In the interests of time, we will move on to our next question, which has been submitted by the audience.

Question 5:

There are reports that the UK variant is associated with "atypical" symptoms. Is this really the case or just recognition that the original case definition was too narrow?

And I would like to ask Muge to take on this, please.

Muge Cevik 35:20

So, I guess, because the variant is quite new, we still need to take some of preliminary data as preliminary. So, I mean there's some reports from PHE which I'll send a link to the chat, based on the population-level surveillance of 15,000 individuals, looking at the new variant versus old variant. It doesn't necessarily show any difference between those who self-reported symptoms. And trends over time basically shows that there were similar rates of those not reporting any symptoms. But this could be just reflecting ongoing, you know, PCR positivity after earlier acute infection. And according to the same report, we actually haven't seen any differences in terms of viral load. So, because there were earlier reports suggesting that you know those with the variant might have higher viral load, therefore might have more symptoms or more severe symptoms. At the moment, that doesn't seem to be the case but as I said, like, this is, we need to look at it as kind of accumulating data. There was also a recent ONS report, basically from 27th of January, that was comparing those basically with the variant, with the new variant and the old variant. What that showed, although this is not a matched cohort so it's not matched by age or comorbidity, and some of the symptoms might be related to that, but it kind of shows that, you know, people with the variant seem to have less loss of taste and loss of smell, and largest differences were more, you know, developing more cough, sore throat, fatigue and myalgia. But gastrointestinal symptoms or shortness of breath or headache, they were really similar when we compared the new variant with the old variant. But as I said, like, this is not a matched cohort so it may depend on the comorbidities and, as we know, because the variant is more transmissible, it may be, you know, transmitting and spreading more to the much more vulnerable population. So we may see different symptoms, I guess, but there are more data being analyzed at the moment so I don't

have any, you know, concrete evidence at the moment, but these are the things and I'll send a link to the chat just now.

Jincy Jerry 38:04

I think, let's move on to our next question

Question 6:

Will a vaccine prevent reinfection? In the coming years will COVID be a seasonal infection which would require seasonal vaccination?

I'm going to ask Judy to give her thoughts on this please.

Judith Breuer 38:54

Yes, I think that we don't yet know whether the vaccine will prevent reinfection. What we know more about is the efficacy of vaccines against primary infection at the moment. That's what most of the work is looking at. And we do know that the vaccines are pretty effectively active against the B117 variant, and there doesn't really seem to be too much drop-off in efficacy, a little bit perhaps but not very much, in people who are naive and who are vaccinated and then exposed to the B117 variant. There's been very little work done in people who are already immune and then vaccinated to prevent against reinfection. But we do know that viruses that carry the E484 appear to be able to escape immunity to previous variants - to the original virus that was circulating - better than the B117 variant so the vaccines against the original variant, the original virus that was circulating, seem to protect less well against the E484-carrying variants, although there is still quite a lot of protection. And so really it's actually amazingly encouraging. I mean, when you think that we were really not necessarily expecting a vaccine to work at all, and to have most of the vaccines giving us over 80% protection against the original strain and similar protection against the B117, and then perhaps a little bit less against the most recent, the South African variant, that's pretty good. What we do have some data on is that people who were naturally infected in South Africa with the original virus that was circulating everywhere in the world seem to have become reinfected with the new South African variant, more than one might expect. But there's no really hard data. It's all, you know, anecdotal based on, for example, looking at people who were receiving a vaccine at baseline had were antibody positive and

then were being vaccinated as part of a vaccine trial and then became infected. So I think that there is some evidence that this new variant may be able to cause reinfections, although we at the moment, or there may be evidence that it can cause reinfections, although at the moment we don't have very much data - this is a South African variant. I think, you know, ultimately, the expectation is that this virus will just behave like other viruses, other respiratory viruses, and we get reinfected with respiratory viruses all the time. And actually it's in the interest of the virus to evolve in order to just continue to cause reinfection because that perpetuates the virus. And actually it's also in the interest of the virus to become less and less virulent, because then people survive and they don't notice that they're getting infected, they're being infected, and they then pass it on to the next person. So one of the things we don't yet know is whether reinfection is going to be the norm, but I think we most of us expect that the virus will mutate to become able to reinfect. And yes, if that's the case and the virus is still capable of causing the severe disease that we do see, we will need to make new vaccines. And it may be something that we do as you do for flu, that we actually produce new vaccines every year, or boost everybody every year with the most prevalent variant, or perhaps a bunch of variants, and produce antibodies against whatever is currently circulating. One thing that we would hope is that eventually this virus may become less virulent. And, you know, who knows? I don't know when that might happen, but it may be in some time in the future that we may not have to vaccinate and the virus will just be a normally circulating seasonal virus that doesn't actually cause very much problem, as we find with the other coronaviruses. We don't know yet. At the moment, I would say yes, expect reinfections in the future, not necessarily more severe infection or not necessarily symptomatic infection and expect that we will need to continue to vaccinate people, above all to prevent infection of those who are not immune for some reason and may be at risk of more severe disease.

Jincy Jerry 44:15

In the interest of time we are going to go to our next question.

Question 7:

Boris Johnson stated that the new UK COVID variant is associated with higher mortality and morbidity. Do you think this is due to confounding capacity and/or quality of care given or due to the variant itself?

I would like to ask Muge to take this question please.

Muge Cevik 44:44

Um, this is probably one of the difficult questions so I guess what we know so far is that there's some early evidence that it may be leading to more mortality, but this data is basically based on pillar two data, and the cases with the B117 was matched to non B117. And it was also matched by age, sex, and local authority residence. So, there seems to be some increase in mortality. And this is much, much more marked in older age groups, especially in nursing home residents. But I guess there are some limitations that we also listed in NERVTAG report all these, you know analysis is basically based on pillar two data and as you know pillar 2 data mainly looks at the community cases, although you know some of the nursing home residents or community cases who are also admitted to hospital might be captured. But there's a possibility that we may be missing some of the hospitalized cases in this in this analysis. The other thing is this analysis is only looking at 8% of deaths, so another limitation. And this, this has been also listed on the NERVTAG report. And there are certain biases obviously this is not actually matching the patient's based on comorbidity. So we're basically at the moment, assuming that they have similar baseline comorbidity. But, I mean, at the moment, the analysis done by PHE, Imperial College, London School of Tropical Medicine, Exeter University, but all looking at the same analysis, showing some increased mortality. Looking at another data set, which is basically looking at the hospitalized patients - that doesn't seem to show any increased mortality in hospitalized patients. So, there's still more work to be done so we're trying to understand whether there may be some, you know, bias related to, for example, care homes, if we're seeing disproportionate outbreaks in care homes for example this could lead to, you know, observed increase in case fatality rate. That's important. And also I think pillar two data is based on symptomatic testing, usually in the community so we need to look at maybe much more random testing. ONS data could be a useful tool so we're still looking into that. And we're also trying to stratify some of these analyses by region and, you know, based on hospital, based on certain locality. So, and I seem wanting to emphasize is that this isn't basically looking at case fatality rates so it's not infection fatality rates so the absolute risk of, you know, death is still quite low for individuals. It's basically looking at overall mortality in this report. So hopefully we will have more data soon, but I think having a much more transmissible variant was always, you know, a worry that it could lead to more hospitalizations and more deaths. Unfortunately, but obviously it's a it's a concern if it's more virulent, and it's also important that we understand where these deaths are coming from. Is it more like setting related, for example, nursing home, or certain settings, it could be workplaces or occupation settings. And so yeah I mean, early data shows some differences but hopefully we will have much more concrete evidence soon. I don't know whether Judy wants to add anything.

Judith Breuer 49:14

Thank you. Yes, I mean, we've been doing a very, very large study of sequencing, all inpatients from a number of hospitals are part of the hospital onset COVID infection COG-UK study. And actually when we're asking about whether sequencing helps with infection control in a in a big in a big study. And as a side issue to that we've done a variant study analysis which we're just pulling together and not yet published, but I can echo what Muge says, which is that although we see a slight increase in mortality, it's not significant. It's in the same direction as the community studies. But actually, much of that is coming from women over the age of 70, and that we would feel would fit quite nicely with the, the fact that some of these women would have been admitted from nursing homes where there is a big risk of acquiring infection so it's not completely accounting for the slight increase that we see, but it is certainly that's the group in which there has been a big significant increase in mortality in hospitals. So, yep, the jury is out as far as we're concerned, we think there may be something and it gives us a

stronger signal for people being admitted to the intensive care unit and of course we are able to stratify by, whether they were admitted with COVID, or whether they acquired their COVID in hospital, and that helps us to sort of dissect out whether you know you'd expect people being admitted would have severe disease, whereas people, prior to hospital are just unlucky in the wrong place at the wrong time. And we do get a signal of some increase in, in ITU admission. Not overall, in some subgroups, and again we're looking into this is not informed by the older women. It's not the same group. So we're looking into what could be causing that. I also should add going back to Lisa's question that our analysis of this, of this cohort, this group of people that we've been looking at does suggest that there is no increase in hospital transmission of this variant of the B117 variant compared to the previous circulating strains. We've seen no signal of that. So I think that whatever is being done in hospitals in terms of actual infection control is working against the new variants. And similarly, whatever is being done, even if there is an increased severity as seen in the community in hospitals, if there is an increase it's being mitigated by what is happening in hospital by the care of people receiving in hospitals

Jincy Jerry 52:22

Thanks Judy it's really great to see that infection control works even for the new variants so I'm going to move into our last audience led question.

Question 8:

Are all approved COVID vaccines equally effective against the new UK variant? What proportion of post-vaccine positive cases are from the new COVID variant groups?

Judy would you like to take this question?

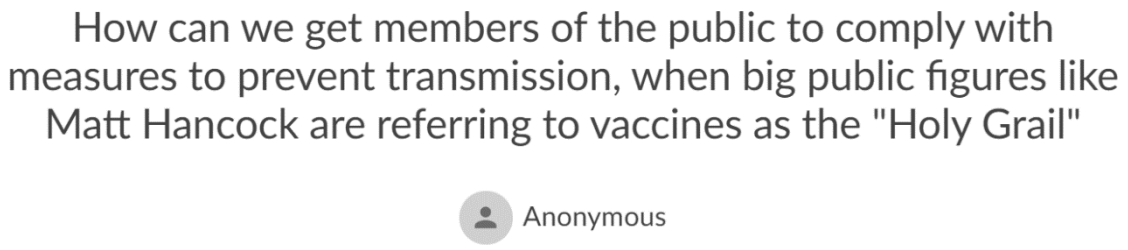
Judith Breuer 52:55

So far as we can tell, all the current vaccines that are licensed are effective against the B117 mutant, and they may be slightly less effective than they were against the original virus, but not so much as to make a real difference we think to their overall efficacy at a population level. As for the number of post vaccine viruses - that's going to be informed by what's circulating. So we can't actually say - it's very difficult to do those studies because as the variant takes over. Of course, all, all the post vaccine

variants are going to be B117, and there aren't going to be the old ones left. There's a little bit of evidence from one or two studies that the vaccines are slightly less effective against the B117, but very very very very slightly. And so it's really almost not worth even worrying about the vaccines we have are so amazing. I mean to get, you know, more than, 80%, or certainly more than 75% efficacy in all the vaccines is just absolutely amazing and there may be a little bit of variation between vaccines and there may be a little bit of variation against B117, but effectively, we are well protected against both of those and they new variant.

Jincy Jerry 54:37

That's really reassuring. We lagging a little bit behind at the time so we'll be happy to stay for a few more minutes so that we can have some live questions from our audience, and apologies to the audience will try to stick with the time next time. So first question from our audience.



Jim McManus 55:38

I suppose as the as the psychologist, allegedly, and public heath person in practice on the panel I should have a go at this, shouldn't I? I think that's a really good question because we are seeing people talk about the vaccine as if it is the holy grail or silver bullet and it isn't. And we just need to keep pushing the fact that you need combination prevention. So, Muge I think referred earlier to testing as being one strategy but for the benefit of self-isolation, and Lisa and Judy referred to preventing hospital infection and actually preventing new mutants and new variants emerging. So we need to get it into people's heads about you know the psychologically combination prevention, that we knew it worked in malaria we know it worked in HIV. People often talk about is a Swiss cheese approach. So I think the more clear consistent communications we give psychologically, the better result we will get, that's my view. And sometimes you just have to put up with people getting things wrong, and people want to give hope and politicians want to give hope understandably, but we need to temper that with reality. Simple, clear messages of what you can do, and all the evidence says those things work.

Jincy Jerry 57:09

Thanks Jim, we will go to the next question.

What percentage of samples are being sequenced ? And is this the same across the country?

Anonymous

Judith Breuer 57:32

At the moment it's around 5% of samples are being sequenced. And it's pretty even across the country. There were some spots that were not being well covered but there's been a huge effort to try and get those samples in. And as the numbers fall, the percentage being sequenced will rise, because the numbers being sequenced are around, 20,000 to 25,000, a week. And, obviously, that represents around 5% at the moment, probably a little bit, a little bit more. But, you know, you can imagine, as time goes on, we may end up sequencing everything. And that obviously will give us an amazing insight into what's happening.

Jincy Jerry 58:22

One more question.

Why have no 'troubling' variants been detected in India (or have they)? There has possibly been more transmission in India than any other country but the epidemic curve there is unimodal rather than bimodal (or trimodal) as in Europe.

A Anjaneya Bapat

Any panellist wants to comment on that?

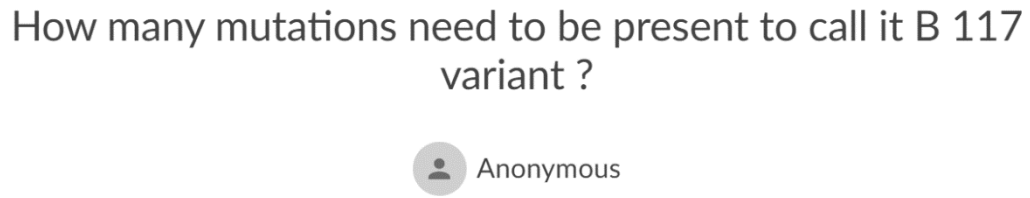
Muge Cevik 59:00

I mean, I guess, as we discussed the problem remains the genomic surveillance is still not available in most countries so it basically leaves us blind to what variants may be circulating in many places like India. And I always worry about countries like Iran, for example, who had huge, you know, outbreak

and large outbreaks in the first wave. So that, you know, potentially, these areas might be fertile ground for some types of concerning mutations that we don't know. I guess this basically emphasizes that we need to do much more surveillance, but that needs to come with, you know, infrastructure and technical expertise and political will and dedicated resources, obviously I'm in the UK and we're very, you know, lucky and fortunate. And, and I guess this basically again comes back to the point that, you know, we need to have this international perspective, you know, even if we are able to control the infection in the UK or in any other country. If there's an ongoing outbreak and you know epidemic in other countries that will, you know, consequently subsequently affect us with new variants. So there may be more variants that we're not aware of in summary And that basically tells us that, you know, we need to have much more equitable approach to the pandemic, but also vaccine distribution, because at the moment, I mean when we look at vaccine distribution, many high income countries are able to you know vaccinate, maybe, low risk, you know, individuals whereas in other countries like in India or Brazil or, for example, Iran, we don't know whether you know we can even get the vaccine to vulnerable populations so it becomes a much more global issue. I think.

Jincy Jerry 1:01:05

Adel, is there any more questions?



Judith Breuer 1:01:27

I guess I could, I could take that the lineage is defined by 23 mutations. But really we are focusing we tend to focus on the spike mutation so the sequencing doesn't always work perfectly across the whole genome. But on the whole, if it has the compliment of eight spike mutations, we tend to assume that it is part of lineage B117. There will be occasional viruses that don't have some one or two of the mutations for some reason. Those may have mutated out. But on the whole, it's this spike mutations that are defining how much we worry about the, you know, worried about it being a B117. That being said, we are beginning to be interested in other parts of the, of the virus and there are some other areas that are, you know, mutations that are shared by the variants for example in other parts of the virus and they're shared by all three variants. And that may be contributing to the pathogenesis of these of these variants, but in general the lineage is 23 mutations compared to the original circulating Wuhan strain. But if you're defining it we're usually sort of interested in spike mutation.

Jincy Jerry 1:02:53

Thank you, Judy. As the webinar draws to a close, we would like to thank all our panel members, Jim, Judy, Lisa and Muge for sharing their time and expertise with us today. We would like to also thank GAMA Healthcare for supporting the webinar with an educational grant. The certificates of attendance will be sent out after the event, and the recording and transcript will also be available on HIS website. So I request all of you to save the date for our next webinar in the series on 24th March and 5th May, where we will be looking at 12 months of COVID - what have we learned? So thank you for all for watching and have a good evening.