

Transcript: Webinar – Measles: critical update | 16 August 2023

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During this webinar our audience submitted their 8 questions to our expert panel:

- Vanessa Saliba, Consultant Epidemiologist, UK Health Security Agency
- Cariad Evans, Consultant Virologist, Sheffield Teaching Hospitals
- Elaine Cloutman-Green, Consultant Clinical Scientist, Great Ormond Street Hospital

Chair: Surabhi Taori, Consultant Microbiologist, NHS Lothian

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Surabhi Taori 00:03

Thank you all for attending the webinar series IPC challenges and solutions. Today's session is called 'Measles: a critical update'. I'll be your chair today. My name is Surabhi Taori, I'm a consultant microbiologist at NHS Lothian, but currently on a sabbatical year at the Johns Hopkins School of Public Health. Before the webinar, we asked participants to submit questions. Of these questions, we selected eight, which the panelists will answer in the next 40 minutes or so. In the remaining time, we will take live questions from the audience. Now, to submit the live questions you need to go to Slido. So we have a very accomplished panel today, all of whom have extensive experience in managing various aspects of measles. So in no particular order, allow me to invite our panelists to introduce themselves. In no particular order, Vanessa Saliba.

Vanessa Saliba 01:03

Hello Surabhi and everyone, thank you all for joining us. My name is Vanessa Saliba. I am a consultant epidemiologist and I work for the national immunisation and vaccine preventable diseases division of the UK Health Security Agency and I lead on the MMR program. Nice to be with you today.

Surabhi Taori 01:24

Thank you, Vanessa. Cariad Evans.

Cariad Evans 01:30

Thanks you, yes, my name is Cariad. I'm a consultant virologist in Sheffield, and I'm involved in covering a region of hospitals in South Yorkshire and North Derbyshire. And I have lots of direct clinical experience of managing a large measles outbreak, and I do a lot of work in PPE. Thanks for inviting me.

Surabhi Taori 01:51

Thank you, Cariad. And last but not least, Elaine Cloutman-Green.

Elaine Cloutman-Green 01:55

Hey, everyone. So I'm a consultant, clinical scientist specialising in infection control. I work at Great Ormond Street Hospital. So we are obviously paediatric and have lots of experience of what this might look like in a pediatric tertiary referral setting. And I also have an interest in how we use things like ventilation in the built environment to help us control spread.

Surabhi Taori 02:20

Thank you, Elaine. So now, just to get started, we have a question for you, an audience poll question. I'm not sure if there's going to be slide with a question. But the question is, how confident would you be in clinically defining a measles case on a scale of one to five, where one is not confident at all, and five is expert confidence? Glad to see some answers coming in. Others are still trickling in. Okay, so we have answers coming in. And they're showing a very interesting pattern. Would any of the panelists like to comment on that? Any reasons you think?

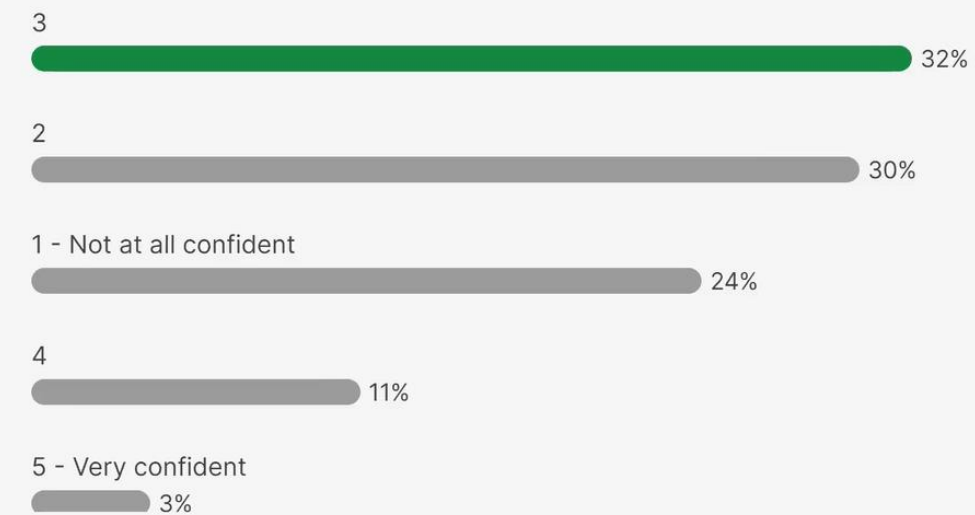


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How confident would you be in clinically defining a measles case (1-5)?



Elaine Cloutman-Green 03:37

I'm not surprised that there aren't that many people who feel very confident at identifying measles cases, I was saying before we started that, even in my world, you know, the pandemic has meant that we haven't seen a lot of children presenting with kind of measles and managing it. And so I think even those of us that have been practicing for a while, probably haven't seen it for a while, and therefore feeling less confident than we might have done if you'd asked this question five years ago.

Surabhi Taori 04:10

Thank you, Elaine. Anybody else? Well, I'm glad it's not all one, at least there's, you know, some memory of cases that they'd be done before.

Cariad Evans 04:21

So yeah, that's what I was gonna say. So it's sort of settling into the middle, isn't it? So everyone's familiar with it, but probably feels a bit rusty on it. There's so many other respiratory viruses and rashes and other things going on of late, they're probably a little bit wanting, hopefully, some kind of recap, a reminder rather than starting everything from scratch.

Surabhi Taori 04:45

What a wonderful time to have this webinar. So without further ado, shall we go on to the first question selected from the audience? The question is what is the epidemiology of measles in the UK? And have there been any recent changes in the patterns, such as children versus adults, and for the immunocompromised, and traveler populations. So Vanessa, can I ask you to answer that?

Question 1:

What is the epidemiology of measles in the UK and have there been any recent changes in children versus adults and for the immunocompromised and among travellers?

Vanessa Saliba 05:15

Yeah, happy to take that question and hopefully provide you with some context for more questions later on in the webinar by bringing you up to date with where we are with the measles epi at the moment. So hopefully, some of you have seen some stuff in the media because we're trying to raise awareness around the possibility of a measles resurgence in the UK. So this year, in the UK, we've had already 150 confirmed lab confirmed measles cases, that means there's quite a few more out there that we won't know about. But that's still quite a significant number compared to what we've seen, as Elaine said, during the pandemic, where measles virtually disappeared, like many other infections, because of the public health interventions that we put in place to control COVID spread, particularly the interruption of international travel. And so we didn't have any more importations from endemic countries. So that's clearly changed this year. And we're starting to see imported cases leading to some community transmission, most of this in London. So 60% of the cases have been in London so far. 40% of the cases are in children under the age of five, with another 20% in young people and teenagers, so the 15 to 34 year olds. And that really reflects what we know about measles, MMR uptake historically. So what also happened during the pandemic is that many countries, including the UK, saw a fall in the uptake for the routine childhood program. In fact, for the MMR program in the UK, we've seen a year-on-year decline for about 10 years now. In order to achieve measles elimination, uncontrolled spread in the community, we need really high levels of uptake of the MMR vaccine because measles is so incredibly infectious and spreads so easily. So in fact the WHO target is for us to achieve 95% uptake with two doses of the MMR vaccine by the time children turn five. And we're nowhere near that nationally or indeed in places like London. So what we have done in the UKHSA is to conduct a risk assessment and do some modeling based on the historical coverage figures to estimate what size of outbreaks we might see and where we might see outbreaks in order to inform hopefully, urgent action now to try and get ahead of the curve and prevent those outbreaks from occurring. We published this last month, if anyone's interested, we can circulate links afterwards. And you can see that basically, we expect to see large measles outbreaks in London in particular, because we've seen suboptimal coverage in London for a very long time. And so it could be as many as you know, 40,000 to 100,000 cases, if we do nothing about it. So that would clearly put a huge strain on the NHS. And it's a clear priority for us all, for all the partners and the health economy to work together to try and prevent that from happening. And then outside of London, there is also risk of outbreaks, these are, the risk is more likely in inner city areas and in under vaccinated communities that locally you will be aware of - these will vary depending

on where you are - and are teenagers and young people. So the Wakefield cohorts that we've been catching up over the years but haven't really caught them up to a level where we wouldn't see outbreaks. So in order to avoid all of that we're working with partners, as I said in the NHS, to catch up children who missed out during the pandemic. That's the priority and that's also driven by the evidence as I've told you, 40% of our cases are in the under five age group. So really need to focus on that group and then to extend catch up to older ages to try and prevent outbreaks with a big focus on London in particular. So hopefully that answers the question but happy to pick up again as we go along and add more.

Surabhi Taori 09:44

Thank you, Vanessa. Would anyone else like to add from their experience? Okay, let's move on to the next question, then. Question two is are rising numbers of cases being seen in other countries in Europe? So bit more, you know, not just-

Question 2:

Are rising numbers of cases being seen in other countries in Europe?

Vanessa Saliba 10:15

I can continue on with a bit of context about what's happening globally. So as I said, the fall in uptake that we saw in the UK during the pandemic for the routine childhood program was seen in many other countries around the world. We're not unique in that space. And actually, our program fared fairly well overall. And we never stopped delivering the vaccination, the routine vaccination program, but other countries actually suffered more. And in fact, we're seeing a resurgence of measles. Right now in countries in Africa and Asia, there's plenty of outbreaks in those continents. And outbreaks in Europe are still fairly limited. So some of you may remember that pre-pandemic, so from 2016, -17, -18 -19, we had a massive epidemic of measles in Europe, mainly driven by Eastern European countries, Romania, Italy, France as well were affected. So we're not seeing that kind of level yet. But the WHO European region has warned all European countries that they're expecting this to happen, it's just a matter of time unless they catch up. So currently, the biggest outbreaks are being seen in places like Kyrgyzstan, Kazakhstan and Turkey. But I think we all feel it's just a matter of time before we start seeing the cases. And we'll see I mean, some of it now. Around summer travel with families coming back from the summer break, we expect to see importations, and they will lead to some transmission, and that will happen across Europe. So we expect to start seeing more activity as the year goes on.

Surabhi Taori 11:54

Thank you, Vanessa. Question three. Thanks, Ros. The question is, what are the statistics on vaccine breakthrough? And what impact did the pandemic have on delivery of routine vaccination schedules, was it disrupted? And is this why cases are rising? I guess Vanessa again, and I'll ask others to chip in.

Question 3:

What are the statistics on vaccine breakthrough?
What impact did the pandemic have on delivery of routine vaccination schedules? Was it disrupted and is this why cases are rising?

Vanessa Saliba 12:25

So I think I've already answered hopefully, the last two questions, we've already covered those. So I'll just focus on the breakthrough infections, and then others can chip in. So I think I'll start by saying that the MMR vaccine is highly effective. And so one dose will protect 95% of the people who receive it. So as you may know, we offer the MMR vaccine first dose to children when they turn one, second dose for children when they're three years and four months before they start school. We don't offer the vaccine routinely to children under the age of one, mainly because the maternal antibody hangs around for around 12 months and will interfere with their response. But as I said, 95% of those one year olds will respond and be protected. We give the second dose to get up to 99%. Basically all of those vaccinated are protected, and it gives you lifelong protection from infection as well as preventing the related disease burden. So it's a really, really good vaccine. It's a live vaccine, as you will know. In terms of breakthrough infections, we do see them and we expect to see them, I should say, in a highly vaccinated population, which the UK population is. But the important thing to say is that these don't pose a significant public health problem. So we normally pick them up in healthcare related outbreaks. So normally in healthcare workers, when there is an outbreak going on in a hospital, and there's heightened awareness, they normally present with more mild symptoms. So they get a rash, fever, but not become very poorly and not have any of the complications. And we pick them up because of the heightened awareness, as I said, and because of the broad availability of PCR testing, so they'll be positive on PCR, but they're not, they're not very infectious at all. And the evidence suggests they only really transmit through very, very close prolonged contacts, so mainly through other household contacts, if that. And so from a public health point of view, they don't really pose a huge problem. But clearly when you're managing an outbreak in the hospital setting, there is kind of comms issues and a messaging that you need to be carefully managed to reassure colleagues that yes, if you had to address this, you're fully protected and you can carry on working and so on. So I don't know if any of my colleagues have had experience of this and might want to add some more?

Elaine Cloutman-Green 14:59

I think all infection control is a lot about messaging. And I think at the moment, even more so than normal, because infection control for me doesn't work if you ignore behavior. And so we can have facts and figures all we like, but we have to be able to engage and have that comms engagement with both our healthcare worker colleagues, but also the people we're speaking to. And so at the moment, I think one of the big challenges is, there is so much fatigue around health messaging, in terms of the general population and how they hear that. And just like in terms of the way that people have responded to the pandemic, you end up getting people who are super conservative, and people who go to the other extreme, I think, that is then impacting on how people receive other messages that are coming out in relation to vaccines that aren't related to SARS-CoV-2 and other public health messaging. And so we need to really think about how we have those communications, and how we use those channels differently, so that people don't just think they're hearing the same thing all over again, and that they kind of don't discount it or get overly anxious one way or the other.

Surabhi Taori 16:11

Thanks, Elaine. Cariad.

Cariad Evans 16:14

Yeah. I think you summarized it really nicely, Vanessa and how they present. So we had a big outbreak of measles here. And we had a significant number of transmission events to healthcare workers. So I think it's like you described health care workers were very close proximity to the index patient who have prolonged exposure, a bit like households who are at risk, and they had really mild symptoms, like you say, and it was it was tricky, because we they really had the mild respiratory symptoms, not the rash, and the coryza and the cough and the sneeze that we'll talk about through this seminar of the cranky kids. They were well, healthy workers who just had really mild fever and symptoms. And because we were being super vigilant and swabbing and testing every contact, and using PCR we did, we did pick them up very early. I think our lessons for those individuals is exactly what you've said about. Fortunately, you don't need to worry about that onward transmission risk so much. I didn't know that at the time I was. I hadn't managed that many reinfection cases. And I was really anxious about them that healthcare workers and they've been working systematically in in quite high risk areas and with vulnerable patients. But we didn't have any transmission events from those healthcare workers with reinfections to any of our patients, which was really reassuring and adds to the body of literature that you're describing, and understanding more about that. And the only other thing, I think it's like Elaine saying that it's harnessing experience from the pandemic and fatigue and getting messaging across to people in a timely way when it's appropriate to them. And they're, they're engaged and want to receive it. In the same way testing health care workers, you know, it's become a really familiar acceptable thing with COVID. And we always did that with measles, and with flu in our trust and other outbreaks. So I think it's really important for folks to think about what their healthcare worker testing programme might look like, if they're, you know, can be working with the lab and doing some local diagnostics and things like that, because it makes a really big difference to your workforce to get them back to work to eliminate worrying around those mild viral ARTs that aren't measles. To ensure they're valued. Someone's looking after their health because they kind of experience your event at work. So it can add lots of value, and be a really hugely important part of the outbreak response in our experience.

Surabhi Taori 19:07

Thank you, Cariad, in the interest of time, let's go on with the next question. Right, so that leads on nicely to what vaccination protocols can be used for at risk patients, especially immunocompromised migrants and asylum seekers. And what about university students? In a catch up vaccination program? How quickly is an impact like it will be seen on the prevalence call on Vanessa again, and then others please chip in?

Question 4:

What vaccination protocols can be used for at risk patients especially the immunocompromised, migrants and asylum seekers, university students? In a catch-up vaccination programme, how quickly is an impact on the prevalence seen?

19:40

Well, I'll just say the generic bit upfront, which is that yeah, we offer MMR vaccine routinely as I've described, but there's no operational limit. So many of the colleagues may be on the call or working in secondary care settings and they're unlikely to be vaccinating but if you do have the opportunity to do an MMR check and offer, then, you know, please do it. But for people who are unsure, they should be going to their GP and they can catch up for free on the NHS whatever their age. So that's the message really. And when we run catch up campaigns, so the NHS, of course, has already run a catch up for the under six year olds, that's a national call recall with letters going out and invites etc. And that's had some impact. But our experience with catch up campaigns is that, that, you know, unless you have sustainable ways of doing it, every few years, have a pool of susceptibles, you're gonna have to go and do catch up because you're going to see outbreaks. So unfortunately, that's the cycle we're in. And so we're trying to strengthen kind of routine touchpoints, particularly links to educational settings. So when you start primary school and secondary school, but until those are in place, we're going to end up going through the cycle of catch up. And it's a lot of work, a lot of it's much more costly, obviously, to do catch up rather than routine, the uptake is normally at best, around 20% of those offers will get a vaccine. But I don't then want you to go away with a message that it's not worth doing, it's still worth doing. Because

every person that you catch up is going to break up a chain of transmission, it's just that it's much more resource intensive and expensive. So if we can strengthen your receipt routine, that's the way to go. But I'll hand over to my colleagues to talk about the risk groups and what we might do for them. But I did say upfront that it's a live vaccine. So clearly, you need to be aware of who's contraindicated the MMR vaccine route.

Elaine Cloutman-Green 21:40

yeah, I think that's one of the things we struggle with. So obviously, we have patients that for a large chunk of time may therefore miss the window when they would normally get called up. And how do we manage to better encourage and refer back to GPS at appropriate points so that they don't miss out on those windows. And I think that's a real issue for those patients that have chronic conditions that are going through long term health management where they may just slipped through the net, and may also be in a position where they have immunocompromised siblings and things who will then be more impacted if they then don't get caught up. And I think it's having those strategic decisions to kind of trust but also engaging with your ICS to work out how best we facilitate some of that.

Surabhi Taori 22:29

Thank you Cariad

Cariad Evans 22:34

Yeah, the only thing I'd add is around the vaccine, as you said, it's a Live Attenuated Vaccine. So for immunocompromised individuals are categorized into group A and group B, but it's contraindicated to give the live vaccine. So for our adult population who fall into those immunocompromised categories, we have to be really vigilant with them that they may have lost a degree of protection, they may be exposed and an outbreak in a hospital setting, but you won't be giving them post exposure MMR vaccination because of the risk. And therefore, they're the cohorts that um, that people need to be aware of that we give immuno copy event as part of post exposure prevention. And there's really good UKHSA guidance on who your high risk cohorts are, who, how you categorize immunosuppression, and how to access and administer IVIG.

Surabhi Taori 23:32

Thank you, Carrie. Shouldn't we go on to the next question now? Question Five is how common are measles complications? which groups are more at risk? And how can awareness be improved? Maybe Elaine, you could go on this.

Question 5:

How common are measles complications? Which groups are more at risk? And how can awareness be improved?

Elaine-Cloutman Green 23:51

So I can kick us off. But obviously, I am not a virologist, just as a disclaimer, so the kinds of complications that I see in my patient population are obviously quite different. Because your complications that may arise if you get your infection, if you're under one may not actually present for quite some time in terms of things like your SSPE. So sometimes I get my complications presenting to me much later in the day when actually it's not associated with that primary infection phase. The big challenge, actually in my population group is because I have an immunosuppressed patient cohort, they may excrete the virus for a lot longer. And so you may not get like the standard complications that people think of that kind of can occur in your 10 to 20% of your standard primary infection cases. But they get prolonged excretion and therefore the potential for CNS complications is quite significant, because they have this ongoing process that they're failing to control. But I think Cariad is going to talk kind of more in terms of that primary admission and presentation.

Surabhi Taori 25:09

Thank you, Elaine. Cariad

Cariad Evans 25:13

Yeah, so it was just, I was just going to touch on really the clinical presentation that we've talked about, which is the coryza, conjunctivitis, a fever, the cranky, Cranky child, and the rash. When we have seen it in adults, they've presented with quite severe presentation. So normally with the pneumonitis, so severe, been classified as a community acquired pneumonia, actually. And that's how they've been referred in. And it hasn't been til maybe a bit later that the rash has developed. They've missed any windows of cold pick spots. And we were talking about these before, when we were sort of discussing preparing for this and that, they they're extremely rare. And the fact that they're not there doesn't mean it's not measles. It's helpful if they are there, as they have then a strong link to a diagnosis of measles,

but that absence isn't helpful. We've also seen quite severe presentation. So the way I categorize our 'at risk' individuals when we've had an outbreak is I firstly, think about our immunosuppressed. And then I think about our children and our pregnant patients, then I think about our healthcare workers, and then I worry about everyone else, because you need to have a bit of a strategy when you're dealing with these cases and their contacts. So from an immunosuppressed point of view your most vulnerable cohorts, your group A cohorts, are those when you're in a tertiary hospital setting, you're thinking about your transplant ward to transplant patients, your EmOC patients, and has there been exposure risk to them, and you need to just crack on and start assessing them for signs and symptoms because it can develop very quickly the signs and symptoms. The incubation period, just to remind everyone is up to 21 days, the infectious period is from day minus 4 of when your rash comes on to day 4 after your rash. So I would recommend to everyone you get your timeline, you get your index patient, you get your infectious periods, you get your incubation periods, you get your patient contacts, and then you can start mapping out and categorizing around risk. How much time you've got to test IgD to see if they're immune to get their vaccination history to acquire immunoglobulin if you need to issue it and administer it or give post-exposure MMR vaccination to identify and isolate them that we'll probably go a bit more into all of those details about very control, but they're the four categories that I would focus on because they're the ones that present with severe complicated disease and nasty pneumonias and can end up on ITU.

Surabhi Taori 28:13

Thank you Cariad. So, Ros, can we go to the next question? What are the standards of IPC precautions? And are there special requirements for neutropenic patients with measles. And I'll direct this to Cariad then Elaine, who would like go first then Vanessa you can chip in.

Question 6:

What are the standards of IPC precautions and are there special requirements for neutropenic patients with measles?

Cariad Evans 28:40

I will start with just reminding everyone how infectious Measles is because it is a shocker. It's a highly efficient virus that is transmitted through the aerosol route. And its R value is between 12 and 18. So for your index case, you're going to get 12 to 18 transmission events. It reads the textbook, in our index case of our outbreak, it had 11 transmission events from the first index case, and we'll go onward from there, but it reads the textbook it follows that. It is airborne, it can travel far as well, it can remain in the air for a long time. There was a bit of change in guidance, so the guidance used to say that anyone who had been in the room for two hours, after a patient had been in the room, there was a risk of transmission to people in that room. So, when we were dealing with our outbreak that was huge if you think about patient turnover, rooms and ED's and things like that. I know Elaine's really an expert in ventilation and things like that and we all became ventilation experts during COVID. So, we can now actually tell you about our preferred changes in lots of areas of estates and they're very low. So, it can remain for a long time, it's level two airborne PPE that people need to be wearing. To remind you, it is the FFP3 mask and a visor, gown, gloves, to make sure that you've got that high level of protection from aerosol transmission. So those are the kind of key details around the IPC. So, Elaine, do you want to talk about your clinical experience.

Elaine Cloutman-Green 30:30

I think it's really important to know your estate, actually I think is my first thing. I think that's one thing that hopefully everybody is a bit more aware of now. Because of the fact that you want to put these patients in the right kind of rooms, the number of conversations I've had, where people have put them in a positive pressure room, because you know, a lot of the ones that are initially immunocompromised, you're trying to protect them. And you don't necessarily clock that it's an infectious rash. And so people have put them in a space where actually you're massively increasing the risk to everyone else that's going outside, we're very lucky in that we have quite a lot of what we call positive pressure ventilation lobby rooms, which enable us to have that balance between protecting somebody who's immunocompromised, but also protecting everybody outside. You have to really think about where your risk is, if you've got a complicated patient that has measles, because you can't be putting them in a positive pressure room. But you also have to manage the fact that they're an immunocompromised patient. So, knowing which space you have allocated, and also having those conversations with people ahead of time. So, when this comes in at 11 o'clock at night, your ward staff know where they need to put somebody in order to make it as safe as possible. Knowing things like your air changes to help you make your risk assessments in terms of your periods of exposure, and making sure that everybody knows what an airborne precaution is. I think one of the biggest challenges we tend to face is your ward dedicated staff are very good at knowing where to put people, what kind of PPE to wear. But it's all the staff that come in and out who are transient members of staff. So, your cleaners, that maybe people don't have these conversations with, but also may not have come from a scenario where they are completely up to date with their vaccine status. If they are outsourced, you may not have the information for all of them. And so it's being super aware of how to contact trace and making sure that you don't just get the list of people that work on a ward who have been exposed but actually much more widely. And also making sure that you think about that messaging, so you don't just tell the wards you have to tell everybody that's going to be present on that ward about that risk of exposure. Otherwise, we're not necessarily doing our due diligence in terms of protecting everybody.

Surabhi Taori 33:04

Thank you. Perhaps in the interest of time, we should go on to the next question. Which is what IPC action is required when a child with non-specific rash is eventually diagnosed with measles and has gone through A&E or the admissions unit. So, this is more of a trace back exercise. So, Cariad and Elaine, would you like to address this one?

Question 7:

What IPC action is required when a child with non-specific rash is eventually diagnosed with measles having gone through A&E or the admissions unit?

Cariad Evans 33:36

Yeah, I mean, it's a heart sink moment isn't it when you get that phone call, and they've already made it through the organization. We often also get phone calls from primary care settings and other settings where the child has been diagnosed clinically as measles, and now you've got a childcare setting a nursery, a school, pregnant staff, and all these individuals phoning up because there's been a diagnosis of measles, and what do you do? So, I suppose it's a little bit like I said, you've just got to be really, methodical. And you've just got to start with that timeline. And you've got to work through whatever tools you have and with your infection control team to work out when the patient came into the organization, and exactly their pathway through the organization to identify where all the potential exposure events may have happened. And when you think about your exposure events, you need to think about your staff, your patients, and your visitors. And when it's A&E, you then have all your attendees as well. So, we've ended up sending warning and form letters to over 500 folk who came into that ED on that day, because you don't know who came with them, whether they were pregnant, whether they're immunosuppressed and how vulnerable they are. So, it can be a very big piece of work, but yeah, I would say, work out your timeline, engage with all your lead nurses, link workers, IPC support that you have on all those wards to work out those timelines, everyone to make those lists - staff and patients. Helpful things to do are generally if you're born before 1970, and you're not really immunosuppressed, you've naturally had measles, you're okay. So, for us with one case, it was on a care of the elderly ward, so we could really relax quite quickly, and just identify that there weren't any pregnant staff or highly immunosuppressed staff or patients. Children's EDs, are really complex places and children do not keep their social distance. They come in with multiple family members, friends,

relatives, and they are extremely busy places. Particularly in the last year with the hepatitis, Group A Strep, the respiratory viruses, you know there is a massive pressure on ED's. So, one case walking through can result in hundreds and hundreds of exposure events. There are helpful warn and inform letters, pull your teams together, you're going to have to work intensively for a period of time and prioritize who you're going to identify as contacts and test because you've got a short timeline to do it.

Surabhi Taori 36:53

And we also know who we're going to call when if such a scenario happens. So. Okay, Elaine, would you like to add,

Elaine Cloutman-Green 37:06

I'd like to just emphasize, there are some things that you can do before these events happen, that will help you - become very good friends with your occupational health team, and make sure that they have the information that you'll need in an easy to access format. When this happens, it always happens at four o'clock on Friday. You want them to be able to just send you the information you need, rather than, as previously has happened, I've been at GOSH for almost 20 years, they used to have to go through paper forms for over 3000 staff, right, no one's going to manage to get you the information you need in that timeframe. So, because of these conversations, we've moved to things like electronic records, it's much easier to ask for the information that you need. But having it all set up so that they know exactly what that looks like and can rapidly respond will save you so much time. I think the other thing is, especially if you have a pediatric A&E making sure that you do some teaching on rashes and how to ask questions about it, because it could not be measles, it could be chickenpox, it could be other things that will also, like chickenpox, cause me so many late nights because you know, you're infectious for 48 hours before the rash. People sit in outpatients, and I have a load of immunosuppressed kids. But at least if you can have people ask those questions about rashes, in a way that parents don't just dismiss, because sometimes they'll just be like, yeah, we just want to get into the appointment. Having those questions and making sure that people recognize the importance of a viral rash in a child so that you can actually cohort and move them appropriately through your space, and hopefully stick them in a cubicle. So, you don't get 100-odd exposures, or you managed to cut them down a little, is just really helpful. But that requires time before it happens and so I think that's something we should probably all be doing now when we know that this is looming, is having those conversations with our staff in order to try to get the pathway management appropriately sorted.

Surabhi Taori 39:12

Thank you, Elaine and Cariad. Can we go on to the next question? So, there was a big measles outbreak in Merseyside about 10 years ago, what caused it and what lessons can be drawn from it? This is our last question today, so Cariad and Elaine who has experience of this, maybe Vanessa?

Question 8:

There was a big measles outbreak in Merseyside about 10 years ago. What caused it and lessons can be drawn from it?

Vanessa Saliba 39:37

I think I was going to jump in, this was from quite a long time ago it's 2013. So, I don't know if any or how many people remember but that's the last major epidemic we had that was a national epidemic, it was big outbreak affecting teenagers mainly and Wales was also very badly affected and they actually had a death related to the outbreak in a young person. Merseyside was also affected, and they had around 600 cases overall, and that's lab confirmed cases. Many of them were in kind of very deprived communities in areas where they had known under-vaccination pockets of you know, sub-optimal vaccination. So there's actually been a paper written up about it, which I can share the link, and you guys can circulate after the meeting, which was really interesting, because we don't have many of these. So, the team there looked at the cost of responding to the outbreak, versus the cost of having caught up those people before the outbreak happened. They estimated the cost of the outbreak at £2 million direct to the NHS and public health system and another £2 million indirect costs, you know, loss of earnings and so on. Then the costs of catching up those, the cohort of unvaccinated would have been a fraction of that at £180,000 or so, I think it's a really actually interesting paper and not many will go back and look at outbreaks and do it in this way. It really, really drums home the point that we you know, once we start to see transmission, measles, kind of the horse has bolted, and it's really, really difficult and it's going to be very painful for all of us. The focus has to be on prevention and strengthening our routine program and catching up everyone, making every contact count. Doing what we can certainly within the healthcare setting, to make sure that, as Elaine emphasized, the need for occupational health to be doing what they should be doing for the records to be up to date, to make sure that healthcare settings don't become a focus for outbreaks and transmission, which does unfortunately happen sometimes. So yeah, we can send the link around, Surabhi, after the call if people are interested to look into that a bit more.

Surabhi Taori 42:07

Thank you very much. So that brings us to the end of the pre-submitted questions. So, Ros and Kay behind the scenes have been moderating the audience live questions. So, shall we go ahead with that?

Okay, we can see all the questions, is that my intention? Okay, so the top loaded question is should colleagues in primary care wear FFP3 fitted masks for patients with measles- because this conflict guidance and the IPC manual and as a potential risk? Would anyone like to address this question?

Elaine Cloutman-Green 42:55

I think that's a really complicated one. I think fit-testing is important, and I think we know that, actually, mask protection is massively variable depending on background and face shape. And so we've had some mask types where 40% of our staff failed their fit-test, and sometimes that can give you false security that you are being protected.

I think it's really important to make sure that your staff members are vaccinated. That's not to, in any way, say that PPE isn't important, and Cariad has vast amounts of PPE experience, but I think, in terms of my number one priority, making sure that the people that are going into that space have had two doses of MMR has to be the priority when you're thinking about staff and how you're using them in any setting.

Cariad Evans 43:56

I'd absolutely say the same. It's been a difficult question for a long time around PPE and primary care and access to FFP3s and training and testing and it is a huge challenge. But I think when you have a pathogen that is vaccine-preventable, then absolutely your primary focus is to be on vaccinating, protecting your healthcare workers. And then the additional layer of PPE. On top of that good ventilation, open the windows if you're seeing these cases. And you can keep your social distance and you can take up the mitigating measures if you've identified and suspected them really early, which again, is just reiterating what we're trying to message today.

Surabhi Taori 44:45

Thank you both. Should we go back to the list? The next question is do you think COVID vaccine hesitancy has had a negative impact on MMR uptake? Very interesting question.

Vanessa Saliba 44:59

Maybe very quickly, I can jump in there, just because we run annual attitudinal surveys with parents of children under the age of five, as well as parents of teenagers and teenagers actually, and there is no, basically – they're published, and again, we can send the link around for anyone who's interested to see the findings.

They're generally very reassuring that for the majority of parents, they think very differently about routine childhood vaccinations than they would think about COVID vaccinations and decision making there. The vaccines and the routine childhood program have been used for decades, and parents know that, and also kind of how they think about the risk of measles in their children is different to how they think about COVID and their children's health. So all of our surveys are very reassuring there. That's not to say that this is not something that we aren't, you know, we're still looking at this and still worry that there are pockets of the population where this may be an issue. So we need to continue working

very closely with partners, as we've been describing, to really engage with our under-vaccinated communities to understand what the issues are, what the barriers are, and then address them.

We feel in the main, still, that many of the barriers are about access. So are we communicating in the right language or using the right peer groups in the right places? Are people, you know, certain families that are not even registered with their GP practice and are not engaged with the NHS at all. So those need a very different approach and different health professionals like the Health Visiting Team and others, to engage and bring them into the system. So all of that work that needs to be done, we do hear from some GP practices, that they have to work harder to get people in through the door, in some communities in some areas, so they have to do more phone calls, you know, a letter on a text message may not be working, they might need to do follow up with several phone calls and have conversations.

But our evidence suggests that if you give the parent the opportunity to have that conversation with a trusted health professional, you know, 95% of them will then go on to vaccinate, it's okay for parents to have concerns. It's perfectly normal and natural to ask questions. I think where we've been, we've struggled more since the pandemic is having, you know, health care professionals having the time and capacity to engage in that way, and to give that the time that it needs sometimes. And we're very well aware of that. I think that's where we need to support so that those communities don't get left behind.

Surabhi Taori 47:47

Thank you. Next question.

So, what is the advice for adults who are born abroad, and are unsure of their MMR vaccine status?

Vanessa Saliba 48:04

I think that could be a quick one and a straightforward one. I mean, the advice is, if you're not sure, if you have no records, you can start from scratch. Basically, there's no harm in giving vaccines again. Yes, of course, if they're coming from an endemic country, and they're an adult, and they're likely to have had measles as a child, but what about rubella and mumps? So, you know, basically, there's no harm in repeating and so you just offer. I understand that there are resource implications around this. But that's the guidance. So that's the answer.

Surabhi Taori 48:35

Are there any antibody tests available?

Vanessa Saliba 48:37

No. Well, we do not recommend doing that. Absolutely don't go there. Basically, many of the assays are not really... that's not what they're designed for. They're designed for picking up acute infection not past immunity, particularly immunity from vaccination, so they're likely to come back as negative or equivocal, even though they may well be protected. So no, that's not the advice. You just base it on a record and if there's no record, you just start again.

Surabhi Taori 49:03

Okay. Thank you. And the last question on the list: what provisions or plans are there, if any, for healthcare workers of a certain age in either acute or community who have never had MMR? I suppose that would be similar, but just to reiterate, perhaps.

Cariad Evans 49:34

Yeah, I think it's the same advice as Vanessa has just given. If you've not got a history or did not get vaccinated, then please do offer vaccination. But as I alluded to, if you're born before 1970, then you lived in a country where measles was endemic, and you likely did have it as a child, assuming you're not immunocompromised.

Elaine Cloutman-Green 49:57

There are people my age that would only have had one dose. And so we routinely give them two doses again, as part of the onboarding process. So it should be picked up as part of occupational health really, for your groups, at least.

Vanessa Saliba 50:16

Just one small thing – what I said earlier about not testing for antibodies for the general population does not count for healthcare workers. So follow the guidance there! You can test them.

Surabhi Taori 50:27

Okay, great, thanks for that. But now we're heading toward the end of the webinar, and perhaps in maybe one or two minutes each, what would be your key messages for our audience, which generally consists of IPC nurses, medics, virologists, microbiologists, in general people working in hospital infection, but also perhaps some non-healthcare infection specialists.

Elaine Cloutman-Green 50:58

Have a plan. Have a plan that you've already thought about in place, so that when it happens, you're not on the back foot, trying to work out who your key stakeholders are, what your processes should be, getting information together for leaflets and things. If you can do all of that, so that you have it ready to go, and then use that to do your education to hopefully mean that you don't get to the point so easily when you have your exposures. Because if you combine those two things together, hopefully you'll reduce the amount of Friday night phone calls that you're going to get.

Surabhi Taori 51:37

Thank you, Elaine. That's precious advice.

Cariad Evans 51:44

I'll come in, because I was gonna say that based on my own experience.

I was a very new consultant, and we had a local outbreak in the hospital through an index case that was an extremely chaotic individual who came through our A&E. I won't go into the details of it, but we didn't have a plan. We had a policy, but we didn't really, we hadn't really thought through all of the steps that we've discussed today, like who your key stakeholders and friends are. And I don't want to say... but we had an index case that led to 16 transmissions, which actually wasn't that huge in the grand

scheme of things from an infection cases perspective, but I cannot say I did not eat or sleep for a very long period of time, we had about 1000-odd occupational health records that needed interrogating, we did over 150 PCRs, 600 staff IgG tests, 96 staff members were given MMR, 890 warn-and-inform letters were issued over a weekend, and over 4000 patient contact events had occurred. That's how shockingly bad it can be if you don't identify a case at the front door. So just get really prepared.

Surabhi Taori 53:11

Okay, and last but not least, Vanessa.

53:16

I think the only other thing I would add, which has already been mentioned, is about training and raising awareness. We're saying we're already starting to see some measles cases where it's likely to continue to increase. So please engage with your A&E staff and all the frontline staff, receptionist people, you know, how you deal with your patients with rash. And the need to report to the Health Protection Team every suspected case so that they go through a risk assessment with you. And, yeah, if you can make friends with your occupational health, make sure that you can get those records and that everything is in place to make sure your staff are protected now.

I think we did mention people working in concessions when there was an outbreak in London, in a big London trust. Where there were transmission events happening through the coffee shop in the hospital, obviously not the responsibility directly of the trust, but they learned after that and build that in into all the contracts going forward. I don't know how many trusts do that. But yeah, so think creatively and yeah, know where the guidance is. And if you need our support, we're here so to get in touch.

Surabhi Taori 54:37

Okay, any final words?

Otherwise, thank you so much to all the participants and our panelists, Vanessa, Cariad and Elaine. And of course to the staff behind the scenes. Thank you for watching. A few points to note: there will be a feedback survey. And for your feedback, we really want to know how to shape our future events. Certificates will be sent out after the event and a recording and a transcript will be available in a few days. Past webinars are also available on the HIS website.

So thank you all and thank you panelists for taking time to educate us today.

Additional resources

- [Mind the Gap — Black & brown skin \(blackandbrownskin.co.uk\)](https://blackandbrownskin.co.uk)
- UKHSA [National measles guidance: https://www.gov.uk/government/publications/national-measles-guidelines](https://www.gov.uk/government/publications/national-measles-guidelines)
- UKHSA [Guidance on Post-Exposure Prophylaxis for measles: https://www.gov.uk/government/publications/measles-post-exposure-prophylaxis](https://www.gov.uk/government/publications/measles-post-exposure-prophylaxis)
- UKHSA [Measles guidance on international travel and travel by air: https://www.gov.uk/government/publications/measles-public-health-response-to-infectious-cases-travelling-by-air](https://www.gov.uk/government/publications/measles-public-health-response-to-infectious-cases-travelling-by-air)

- Measles Green Book Chapter: <https://www.gov.uk/government/publications/measles-the-green-book-chapter-21>
- Immunisation of healthcare and laboratory staff: the green book, chapter 12: <https://www.gov.uk/government/publications/immunisation-of-healthcare-and-laboratory-staff-the-green-book-chapter-12>
- [Measles: risk assessment for resurgence in the UK - GOV.UK \(www.gov.uk\)](#)
- [The economic cost of measles: Healthcare, public health and societal costs of the 2012-13 outbreak in Merseyside, UK - PubMed \(nih.gov\)](#)