Transcript: Webinar – Spotlight on guidelines: MRSA

IPC management of patients and staff | 3 November 2021

Watch the webinar

During this webinar you our expert panel answered questions on the updated joint HIS/IPS guidelines for the prevention and control of MRSA in healthcare facilities, in relation to IPC management of patients and staff.

- **Maria Cann**, Trustee and Secretary, MRSA Action UK
- **Professor Hilary Humphreys**, Senior Clinical Educator, Royal College of Surgeons in Ireland
- **Professor Jennie Wilson**, Infection Prevention and Control Specialist, University of West London

Chair: **Dr James Price**, Director of Infection Prevention and Control, Imperial College London

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James Price 0:04

Good evening everyone. Welcome to the HIS webinar, we're just going to give everyone about a minute to join and then we'll get started Thanks.

Okay, good evening everybody. My name is James Price. And as my day job I'm a DIPC at Imperial but I chair the Professional Development Committee at the Healthcare Infection Society. And thank you all for joining our first Spotlight on guidelines webinar. And today's webinar will focus on MRSA an organism very close to my heart. And this is to celebrate the release of the updated joint Healthcare Infection Society and Infection Prevention Society's guidelines for the prevention and control of MRSA in healthcare facilities, which to remind everyone is freely available from the Journal of Hospital Infection.

And I think it goes without saying, firstly, we get to not talk about COVID for an hour, which I'm sure everyone be excited about. But also, we're all I don't need to tell people on the call when MRSA still remains a prevalent challenge, and a serious cause of healthcare associated infection worldwide.

So most of you will be very familiar with our webinars. But for those of you who aren't, during the first 40 minutes, our panel are going to be discussing updates on the guidelines in relation to the infection prevention and control and management of patients and staff in relation to MRSA.

And this is a reminder that we've got a second webinar coming up in a few weeks on the 24th of November, where we'll be discussing specifically around the screening, the surveillance, and the environment. And I'm sure this, this webinar is going to generate a lot of discussion. So during the last 15 minutes, we're going to aim to answer your live questions which you can submit to us via Slido. And for those of you that haven't used it before Slido is an app which you can download. And if you enter the code hashtag HIS that takes you to the right place to submit questions. And you can also see questions that others have submitted, which you can like which tells us which are the which are the most popular so we can ask those questions to our expert panel.

And talking about our panel, we have a fantastic group of people with us today who are going to give us their thoughts and their aspects, particularly related to our MRSA guidance. So I'm going to ask them to introduce themselves. Okay, so let's start off with Hilary. Hi, Hilary.

Hilary Humphreys 3:02

Thank you, James. Good evening, everybody. Thank you for joining us. I'm Hilary Humphreys. I've just started a position as Emeritus Professor of Clinical Microbiology at the Royal College of Surgeons of Ireland in Dublin. And I've been involved in I think this may be my third set of MRSA guidelines. And I've been involved in research in MRSA and related matters and healthcare associated infection for some years.

James Price 3:25

Thanks, Hilary. You're very welcome. Next, we have Jennie. Hi, Jennie. Hi.

Jennie Wilson 3:31

Yeah. My name is Jennie Wilson. I'm a Professor of Healthcare Epidemiology at the University of West London. And I've worked in infection control for more years than I care to remember really, and I'm currently President of the Infection Prevention Society.

James Price 3:47

Jennie. Thanks so much for joining us today. We also have Maria Hi, Maria.

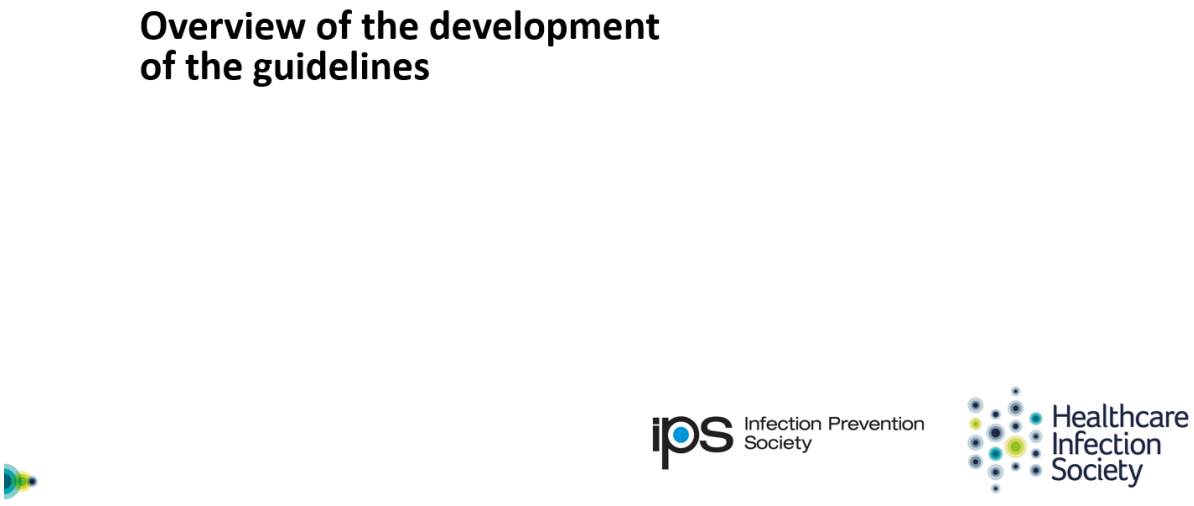
Maria Cann 3:52

Hi, I'm Maria can I'm a trustee of the patient charity MRSA Action UK and I was a lay member on the writing group of the MRSA guideline. I've been involved with healthcare associated infections, particularly MRSA for all 14 years now, since the start of the charity, MRSA Action UK.

James Price 4:22

Thanks Maria, and those in the audience who are astute you'll see but Lisa's not currently with us at the moment. She's been called to a last minute meeting but she will be joining us very shortly. And so Lisa Ritchie is the lead of the IPC, at the NHSE and I, so she'll be joining us very shortly.

So thank you to everybody for volunteering your time to talk us through your views on the MRSA guidance. And so I think without further ado, I'm going to ask my colleagues in the background who were fiddling around with the slides to bring up our first question if that's okay. And so we thought it'd be used to have an overview of the development of these MRSA guidelines, I wonder if I could reach out to Hilary, then to Jennie, to give us your thoughts on this, please.



Hilary Humphreys 5:11

Thank you, James. So as I said, I've been involved in previous guidelines. And I suppose the first thing to be said, it's been quite a delay since the previous set of guidelines and a lot has happened in the

meantime, including a fall in MRSA bloodstream infections. And secondly, I think, you know, these guidelines are NICE accredited, so they, the rigour of the guidelines, is greater than what it would have been present in the past. And I guess thirdly, you know, lots of things have happened apart from the falls in MRSA, bloodstream infection, we've other things that have come on the horizon, such as CPE, and obviously, more recently COVID-19. And I think maybe one of the things that people may notice, and it because the evidence base has been more rigorously searched, and maybe in the past, is that some things are not included, that were there previously, which in retrospect, looking at them were perhaps more opinion than evidence based. And secondly, maybe they're not as dogmatic. So for people who like a dogmatic, very clear, very definite yes or no, that's not present in some of the issues that we've discussed. But what we have included or what's been included in them, are good practice points. And just finally, I suppose what you can say about guidelines is that there are guidelines as to what you should do, but in various other various circumstances, of course, you may feel that you need to go above and beyond the guidelines because of special circumstances that need to be met in your particular area or for particular individual patients.

James Price 6:35

Thanks, Hilary and Jennie's anything you wanted to add?

Jennie Wilson 6:38

No, I think Hilary summarised that really nicely. I would point out that the was with the previous guideline, a really comprehensive systematic review that was published by Heather Loveday. And so it's always worth going back to that original review, because this this guideline is based on the review of evidence subsequent to the review that Heather did. And you'll see that many of the questions that form the basis of this review are a follow on from the questions that were done in that original review. And that's quite important, because, as Hilary said, time has marched on. And I think we have learned a huge amount about MRSA. And the situation perhaps now is quite different to the situation that we were faced with back when the previous guideline was published in 2005. I mean, many of you may not remember that at that time, at least 40% of *Staph. aureus* bloodstream infections were resistant to methicillin. And now we're down to below 20%, and really, amongst the best in Europe, so things really have changed.

James Price 7:45

Thanks, both. I think that's a fantastic scene setting for us as we move into the rest of the webinar. And I wonder if I can, we can bring up our next slide, please. Thank you. And I think so importantly, is around the input from our patients and publics in guideline development. And I wonder if I could reach out to Maria, to give us her thoughts on input into these guidelines. So over to Maria.

Role of the patient and the public in guideline development

Maria Cann 8:12

Yes, that the patient and public engagement was really robust throughout that, and that included the formulation of the questions as well. There were two lay members involved in writing the lay summary, one of them was myself. And we were able to join the meetings and discuss and provide input into what should be included in the guideline and for the first time include information for patients in the public. This was particularly important part of the process, as people are going into hospital for both elective and emergency procedures do need to be reassured if they're screened and found to be carrying or infected with MRSA. In the past, opinion polls have demonstrated that there was a fear of developing MRSA, and it was a concern for people needing hospital treatment. So it's that's evidence based, as well as all the people that were contacting our charity back in 2005, when the previous guidelines was written. There was a lot of media coverage about it at the time, which was quite negative and sometimes quite frightening. And it would make patients and kept their carers anxious about the risk of MRSA. So, a lot of that stemmed from the fact that they were not fully or appropriately informed and needed access to credible sources of information and understand the messages. So the decision to include peer evidence based guidance for patients receiving hospital treatment and patients and carers once they're discharged at home was really welcome, particularly by our charity at the time. So yes, a major concern.

James Price 10:00

Thanks, Maria. That's great. I don't know if Hilary or Jennie wants to come in. Is there anything you wanted to raise relating to this? Hilary?

Hilary Humphreys 10:11

Yeah. And, you know, Marie has expressed it well, I have to say, looking back over the years of previous guidelines, it's remarkable how little or no input there was from patients and the public and haven't been involved in those, you know, I have to share some responsibility for that, I suppose it was at a time where the culture was, you know, doctor, nurse and healthcare professional know best. And really, that's, that's regrettable. So I think the current guidelines are, are long overdue from that point of view. The other thing and again, it's Maria said, that I found here in Ireland and

same in the UK, the biggest, one of the biggest issues, you know, wasn't about whether you did or did not decolonize so much as about the absence of explanation and information about the result of the MRSA screen. And you know, what was going to follow and in language plain language that people can understand. And as somebody who's who struggles with language regarding information technology, you know, I can sympathise with people who try to understand some of the technology and the jargon that we use.

Jennie Wilson 11:09

Yeah, and can I could I just add to that, that, I think it's really powerful that the sort of calls that Maria was getting, actually, when we looked at the evidence, we found that evidence published in scientific literature that said exactly the same thing that people were anxious and concerned, and they weren't getting the right information from the healthcare professionals who were looking after them. So I think that just is so powerful in terms of looking at the literature, and you will find evidence that supports the sorts of things that Maria was trying to tell us.

James Price 11:47

Thank you, Maria, just from a personal question from me, do you think there's anything that we could be doing as an infection community, particularly in hospitals or communities to help either engage patients in the public more help with sort of language and sort of the information that we provide? Is there anything you feel for that's come from this that we could do better, I suppose,

Maria Cann 12:10

I think having patient information leaflets, giving people time to read and digestive if they have been found positive with MRSA, and then discussing, I think the dialogue between the healthcare professional and the patient now, I think things have changed a lot and improved more recently, back in 2005, a lot of us when the charity was formed, we found that you could get a doctor or a clinician to discuss many things with you. In the case of my mum, it was cancer. But with MRSA was, Oh, it's just a bit of an infection going on. It's of no concern. And of course, the headlines in the newspapers back then, it was quite a worrying time. So it is the dialogue, definitely encourage your patients to ask questions, and gives them all the information that they need on when they go home as well gives them something to take away.

James Price 13:15

Thank you. And I think one of the things that I'd say that we're probably okay at is letting people know when they have positive results. But maybe that a reflection might be around when people have those negative results, which we don't I I'd say we may be a less good at providing those information. I don't know what your thoughts are on that.

Maria Cann 13:37

That that is something that is of concern. Very often, we've been contacted to say that patients have been found MRSA positive, but they don't know whether they're okay now, I think, although there are entitled to go back and find out look at medical records and seek that information out is to be more proactive. I think it is good. I know that MRSA can come back, even though you've been found not to be colonised anymore, but it is important that that's explained. And patients do like to know if there is still if they still present a risk to either to themselves or even other members of their family. So that is really important.

James Price 14:24

Thank you. We're getting some comments. And I can see from Victoria on the chat. She's saying about whether the infection community can help bridge those gaps to help support care. And I suppose on the background of that we have integrated care systems that are in place about how we bridge the community in the primary care of getting those information at a sort of real time meaningful way are all things that we all as a community need to help support I would suggest.

Jennie Wilson 14:49

Yeah, James, I think it's interesting because one of the studies that is included in the evidence review actually showed that if an infection control practitioner visited the patient in isolation on a regular basis, their experience of isolation was much more positive. And that really tells us that having information and that reassurance really does make a difference to patient's experience.

James Price 15:19

Thank you. I think what I'll do and I can see we've had a furry friend join us with Maria. So why don't we move on if I could ask the background team to bring up the next slide, because I think one of the areas that we are all interested in is around suppression, I wonder if I could reach out to Hilary to give us some thoughts on the updates around suppression, please.

Updates on suppression

Hilary Humphreys 15:46

Thanks, James. So, again, this is obviously a very important component of the guidelines, but for patients and indeed staff, which we may come on to later. And I suppose you know, there's a very, you know, one of the larger sections of the of the guidelines actually concerned various agents for suppression. And I suppose, essentially, it boils down to the fact that mupirocin for nasal suppression and chlorhexidine, in some form or other remain the mainstay. There's a lot of other agents out there: octenidine, triclosan, tea tree oil, honey, etc, that there are there is suggestive evidence, you know, for efficacy, particularly in laboratory studies or limited studies but not such that they're kind of robust enough to say that these are viable alternatives. And it is one of the recommended points with regard to research that we probably do need better information on alternatives, either because we've got resistance in mupirocin, and occasionally, perhaps, emerging resistance to chlorhexidine, but also because of patients who don't tolerate them or because of other factors. So, um, and again, there's, you know, there's, there's, there's it again, it's less dogmatic, I think, then previously, and there's a lot more open to, I suppose, customising the suppression therapy and follow up to the individual circumstances rather than dogmatically saying, you know, somebody is given treatment for X number of days, and they stay off work or whatever, you know. So I think that's probably, you know, would be a summary of the issues of the suppression therapy unless there's any sort of specifics. And again, a lot of the a lot of the sort of points under the, the suppression therapy, in fact, you know, the, the two, the two are kind of about mupirocin and chlorhexidine, a lot of them are, again, good practice points about details of it rather than, you know, hard evidence based recommendations.

James Price 17:42

Thanks, Hilary's could I open this up, see if anyone else had any comments on this. There's always a without wanting to be controversial. We, which clearly is a feed, a feed into being controversial. But there's lots of the discussion or the debate between using the term suppression versus decolonisation and how that works. And I'd be interested to hear people's thoughts on that. And also to Maria's thoughts on what the maybe public perceptions are around suppression therapy and how, how that may be how we get again, get I sort of improve our communications. But let me open it up to see if anyone has any, any thoughts on that things?

Maria Cann 18:30

I don't think Lay people understand what the what suppression actually means. I think they expect that they will be decolonized. That's a term that I think most people are familiar with, that any treatments they receive will stop the MRSA. And that's what that's an expectation. They don't understand, suppress. You know, knowing that you could still have it. I think there is a lack of understanding in terms of the public and patients is I think that's something that those terms are only understood really clearly by clinicians or not sometimes even clinicians get confused. Yes, decolonization is something that I think the public are more familiar with, and it's something that I also always say, decolonization when I talk about MRSA.

Jennie Wilson 19:32

I think it's important, isn't it to make sure that we're pragmatic about these issues, because there is a technical difference between suppression and decolonization. But in practical terms, it's important that the patient themselves are able to understand that they no longer carry it to all intents and purposes, but to be aware that that they may need rescreening when they return because it could come back again. But it's it picks up what you were saying earlier, Maria about how if we're not careful in the way that we use language, patients go home and then change their behaviour because they're worried about giving it to their relatives, when they don't need to be worried in that way. So it's really important that we are really clear about what we mean, and that it makes sense to the patient when we talk to them.

James Price 20:27

Hilary.

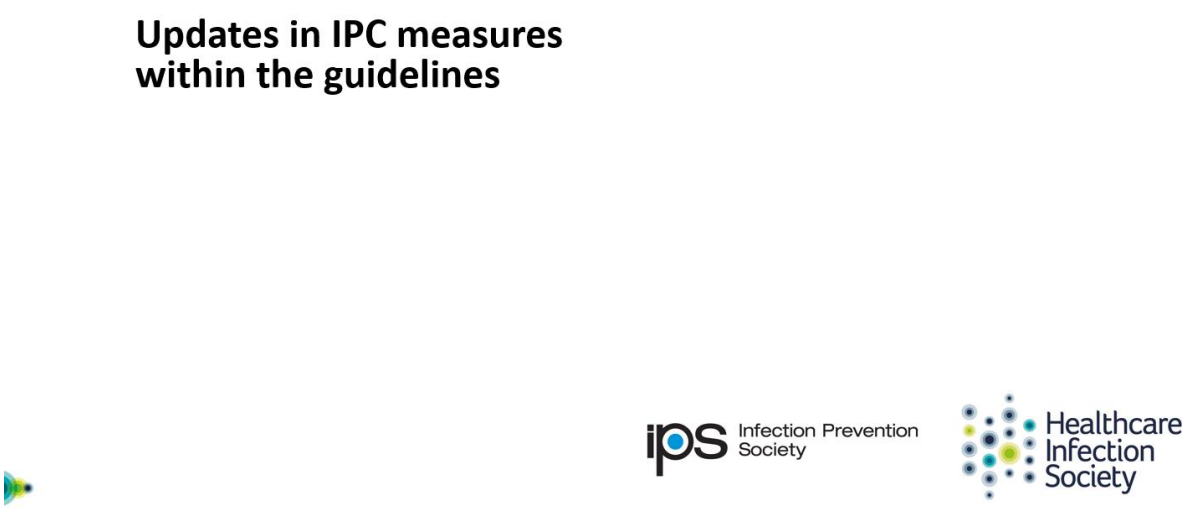
Hilary Humphreys 20:28

Yeah, I just, I actually completely agree with that. Another term that used to be used, but it's a rather harsh term and might be misinterpreted is eradication. And, you know, that's a very harsh term. Sometimes people might think it refers to the patient and not the MRSA. But you're absolutely right, and of course, you know, testing, I don't want to go into huge details on this, but when we look at suppression and we do testing afterwards, we you know, the tests we have, good and all as they may be, they may not be sensitive enough to detect very small numbers of MRSA. But subsequently, maybe on exposure to antibiotics or whatever, or indeed readmission to hospital, might be detectable. So, I think that's a really important distinction, not just for patients, but Maria is absolutely right, most of our non-microbiology infection prevention control practitioner colleagues assume that when you give decolonization therapy, the MRSA has gone. So they don't understand why then you might want to screen that patient, subsequently.

James Price 21:26

Thank you. And I think, you know, we discussed that, I suppose it's part of this reflects maybe some gaps in our knowledge, particularly around where S*taph. aureus* actually lives. So we know, we think of it typically as an organism that's outside of cells, but we know it has an intracellular life, and where it moves to. And so, I mean, clearly, I think we'll probably pick this up in the next webinar, but there's still some evidence, some areas of research that are going to be so useful in understanding about how to target particular screening methodologies. But I think that's been and is certainly generating a lot of questions and comments in the chat, which is great to see because I think this highlights areas that we're still learning about, and this reflects the guidance as well. Anything else anyone wants to raise from a suppression point of view? I suppose one thing that always comes up is around making sure that we've got robust surveillance for resistance and development of resistance as well, particularly related to mupirocin to make sure that we're, we're keeping an eye on, that our suppression therapies remain effective, which I think we all recognise is challenging or can be challenging in itself. But again, so I think that's something that's worth us all thinking about. Alright, I think that's naturally come to an end. Now why don't we move on to our next slide, if that's okay,

please. And this asks the sort of much broader question about the updates in the IPC measures within these guidelines. And I'm going to reach out to Jennie, if that's okay, to give us her thoughts on this, please.



Jennie Wilson 23:02

Yeah, thank you, James. So, I guess in a way, those of you who were familiar with the previous guidelines would feel that the new guidelines have markedly reduced the guidance on infection prevention and control measures. So, and this goes back to what Hilary and I were saying in the beginning, about the way that this guideline has been constructed, has adhered to NICE guidelines, and very much draws on the evidence to underpin the recommendations, and indeed, some of the good practice points. And so, for that reason, it actually pinpoints that the evidence for much of the practice that we apply, assuming that we're preventing and controlling infection, is poorly evidence-based. And indeed, this was found in the previous evidence review that Heather did, but mostly in the previous evidence review it mostly focused on screening and isolation and found a limited dataset of generally poor-quality studies that suggested that isolation and screening, well, obviously screening and isolation because you need to do the two together really, has a role in reducing transmission. In this new guideline, we clearly looked at evidence that has been published since then and had a similar pattern of evidence available. And of course, one of the big issues is that generally, data comes from attempts to control often outbreaks of infection, and that by its nature tends to bias the data that's captured. But also it means that multiple changes tend to be put in at a time in a sort of hell-bent attempt to control the infections in that particular environment. And when you put multiple changes in all together, it's very difficult to separate out the effect of each individually. Commonly, screening and isolation are used together. And so we've probably got a little bit better data to say that that may be effective. But if you add in other infection control precautions, such as the use of gloves or gowns, what we might call contact precautions, there the evidence is really very limited because people do different things. They interpret contact precautions in different ways. And in fact, some of the data looks at what's called universal gloving. So it's wearing gloves for absolutely every patient contact and comparing that to standard precautions or contact precautions. So a whole mix of evidence and added into that particular mix is that the results from those studies are highly variable as well. So in some studies it suggests that using isolation and contact precautions reduces the rate of MRSA acquisition. In other studies, it shows the opposite. And in fact studies, there are a handful of studies, one interrupted time series with a regression analysis, so a reasonable

study design that shows that if you remove contact precautions, it doesn't affect the rate of acquisition of MRSA. And there's a number of other uncontrolled studies, so really poor-quality evidence that suggests the same thing. And to summarise that, that means that we can't be certain that isolation and contact precautions are an important measure to prevent transmission. And hence you'll find in the recommendations that it says that you should consider using those measures, but that we would recommend using standard precautions. So I think we often forget that if applied properly, standard precautions where we expect hand hygiene at those key points in patient care will interrupt the transmission of MRSA along with all sorts of other pathogens. And I think it's really easy to forget that and assume that we need to add additional precautions into the management of somebody who we perceive to have an infection of concern. And certainly that, the evidence to suggest those additional precautions are important is lacking; there's an absence of evidence to support that. Of course, I think the other thing which may partly explain why you get this variation in results of using these sort of isolation precaution, and COVID has shown us that, I think many of us knew anyway, but it's perhaps highlighted the problem of poor use of PPE. So studies that don't look at compliance with precautions actually are not very helpful about telling us whether those precautions work or not because we don't really know the extent to which those precautions are complied with. That said, I think the other section, which is about does patient transfers contribute to transmission, and that threw up some quite interesting studies that have used whole genome sequencing to look at the connectivity of strains of MRSA that you can clearly show have transferred from patient to patient. So we know transmission occurs in a healthcare setting and I suspect that there's probably more transmission than we're aware of because we generally don't use whole genome sequencing to understand the relationships. And actually, James, perhaps when I've just finished this section you might want to bring Hillary in to talk about that because I think he's done quite a lot of work on the use of whole genome sequencing. The final bit that is relevant to this section is about shared equipment. One of the things that I find interesting about the data on shared equipment is that there's a huge number of studies that sample things and grow stuff. And, you know, if you sample things you find bugs on it. But actually there were no studies, well there was maybe one, which showed that having bugs on equipment transmits infection. And so that's a big gap in the evidence. We inevitably, if you sample equipment that isn't sterile, you will find bugs on it. The big question is, how relevant is that to transmission? And actually the one really interesting study was one on stethoscopes. There are endless studies where people sample stethoscopes, but one of those studies look to see whether, if you put that stethoscope on another surface, did the contamination on the stethoscope transfer to the next surface? And it found it did but in minute quantities. And actually one of the comments they made was that the transfer was much greater on gloves than it was with a stethoscope. So the risk is from the gloved hand of the doctor, not from the stethoscope. I'm not going to touch on the decontamination evidence, which clearly is related to infection control, but I think we're doing that in the next in the next webinar.

James Price 30:28

Jennie, thank you. That's great. I, without wanting to put Hillary on the spot, I wonder if you wanted to come in and give your thoughts.

Hilary Humphreys 30:36

Three quick points. I'll try and be as brief as possible. I, one of the things that struck me, and I agree with all of what Jennie said, was that when I looked at these guidelines, again I realised that they were less kind of, if you like, directive than the previous guidelines. But actually, or so I thought, but when I looked back at the previous guidelines, they weren't as directive as I thought because I think what had happened in my own case is that we had adapted those guidelines to specific circumstances where we had high risks. So, for example, you know, my own personal view would be if you have a patient who's got MRSA on a neurosurgical or a vascular surgical ward, I think most people would argue you should isolate that patient, particularly if you're in multi-bay areas. And the second thing is, so, you know, I think it's horses for courses to a degree. The second thing I think about patient transfers is that I think we all knew that instinctively, but I think what's happened over the last 20 years is that patients are moved much more within hospitals than they were previously. Thirty years ago, patients came into hospital and more or less stayed in the same bed for the duration of stay. Now because of pressure on beds, key performance indicators, specialised services in different parts of the hospitals, patients move around a lot more. And in the US there's been a number of studies, not great studies it has to be said, which suggest that for MRSA and VRE, vancomycin-resistant Enterococcus, you know, so-called contact precautions are not required. But of course, in the United States, many patients are admitted into a single room. So if you've got standard precautions in a single room, you know, you're probably quite a way to contact precautions. And then the final thing, just on the issue of the whole genome sequencing, yeah, if you look at, you know, even outside of outbreaks, which we and others have done, you will find that there's inapparent transmission of MRSA, and indeed, MSSA as well, between staff, the environment and patients, that in normal senses wouldn't be detected, particularly if you're doing intensive screening, as opposed to, say, relying on clinical specimens. So that kind of transfer, that kind of increased activity, there's a very complex dynamic as to what's going on in an acute hospital with regard to the acquisition of MRSA. But I think ultimately, you know, if you get basic infection prevention and control measures right, and if compliance levels are high, same with COVID, you are going to go a huge way towards minimising MRSA.

James Price 32:51

Thanks, Hillary. And I'm going to reach out to Maria here just to ask because we've heard a lot about clearly, we talk about lots of IPC measures that are put in place. And again, we've heard about maybe that sort of slight lack of evidence when we're having to implement multimodal, lots of things. And how do you think that's perceived? Or, again, is there a better way we can help support communications with that because at the moment lots of people are obviously having to be isolated with then there's lots of PPE being worn. It'd be interesting to get your thoughts on that.

Maria Cann 33:25

Well, it was interesting, some of the things that Jennie was saying about the equipment because I think that there is a perception that patients do worry about the shared equipment. That, you know, there could be the risk of cross contamination, cross infection. The PPE that people wear, if it's like the keeping of gloves, not changing the gloves and not doing the hand hygiene, I mean, that is something that is very visible to patients and of concern because I think most people now have become aware that hand hygiene is the most important part in breaking the chain of infection and,

you know, cross infection. So I think, people, I think, if people are sort of like very visible with their hand hygiene and showing that they're doing that in between patients, and they are changing the PPE, I think that's important. But cleanliness, that means an awful lot to people in hospital. So you know, where there may be gaps in evidence on the cleanliness of the environment and the transmission of MRSA and other bacteria, I think that means a lot. People do appreciate the, I mean, my opinion, I think, you know, if I'm being treated, I like to be treated in a very clean environment. So I think it is important.

James Price 34:58

Thanks, Maria. And I wonder whether now, more than ever, an expectation in response to COVID and what patients are seeing in hospitals is whether there's going to be more, sort of, heightened awareness. It'd be interesting to see, so Hilary, sorry, you come in.

Hilary Humphreys 35:14

Sorry, Jennie, did you want to get in first?

Jennie Wilson 35:16

Yeah, I just wanted to say that although there isn't evidence for transmission from equipment, that's not to say that it's not a risk, it's just to say that there is sadly a real paucity of evidence. But you're absolutely right, Maria, cleanliness is really, really important. As indeed is the issue about not using gloves to touch lots of different things before touching patients.

Hilary Humphreys 35:45

Yeah, I agree with that. Maria has raised a really important point, which is perception. And the perception that she's outlined there about, you know, about patients and the public believing that, you know, shared equipment or a lack of cleanliness is associated is biologically plausible. It's just that the evidence is not there, you know, to make stronger recommendations. But everybody would agree about the environment and where possible not to use shared equipment. So I think that that issue of perception is really important. And the issue even of cleanliness, you know, if you go into any area, you know, whether it be a supermarket or, you know, a hospital and the place is clean and well ordered, you get this sense that the culture in this institution takes the job seriously, and that they're going to do everything possible to provide the best possible service. In the case of hospitals and healthcare that's a safe service. So that really is a very important perception, I think, that people have and rightly so.

James Price 36:40

Thank you. And I think one thing, clearly, there's a theme that in terms of areas where there are gaps in our knowledge, and so imagine being the generous person I am, having bottomless pockets full of money, I'd be interested to hear what people's thoughts are on where we could and should be

directing our research? Should everywhere have a whole genome sequencer and sequence to understand transmission? Or do we, should we, be picking apart multimodal interventions to see which work? I'd be interested, Jennie and Hilary, just to get your general thoughts on what, any areas that have been raised?

Jennie Wilson 37:17

I tell you one of the things that I I've increasingly felt there is a big gap, and that is the issue of ergonomics and healthcare delivery. Because we've been doing some research recently that, one of the things we observed was that the computer on wheels, which now has become a routine part of healthcare in many hospitals, actually acts as a mechanism by which staff move between patients and a piece of equipment. And actually, if they tend to wear gloves all the time, and don't remove those gloves, they will then just transfer organisms from each patient back to the computer on wheels and then to the next patient. And so, and actually, we don't make it easy for staff to do the right thing. And we tend to introduce new equipment without thinking about how does that, how do we make it fit into a pattern of work that supports infection prevention and control. So I think we need more research that better understands those ergonomics of how we drive hand hygiene at the right point. One of my other big bugbears is the alcohol at the end of the bed because that's not the pointy end of the patient. The pointy end of the patient is the head of the bed and that's where most of the contact with the patient occurs. And we're asking healthcare practitioners to walk round the other end of the bed to get access to hand gel. So that whole dynamic of how we relate to patients and how we put infection control in, that I think would be really good to study more.

James Price 38:57

Thanks, Jennie. Again, Hilary, anything you wanted to come in with?

Hilary Humphreys 39:00

Yeah, I mean, I think Jennie raised an interesting point there about, you know, the way in which healthcare has changed, and we move, if you like, everything lock, stock and barrel from patient to patient. So we're moving from different patient zones even though we may not be examining or, you know, we may be just talking to patients. And it raises the issue that I think if you look at the five moments of hygiene, my sense is that the fifth moment of hygiene, which relates to the patient's environment is the one that people have the most difficulty understanding and actually complying with. And that relates to what you're talking about, Jennie. Just interestingly in terms of, you know, really, you know, one of the areas on the research, I'm just looking here is the issues of, you know, in the guidelines, we also, you know, recommend areas where there would be research or where research is required, some of which we've discussed. But certainly, you know, the issues of the sampling of the environment and what value that has going back to what Jennie said about whether there's actually a direct correlation between what you find in the environment and outbreaks or acquisition amongst patients. That evidence is largely tenuous, even for areas outside MRSA. And while we all agree that, you know, decontaminating the environment is critically important, you know, the justification for, if you like, upgrading maybe technological advances in environmental hygiene, and we may not want to go into that today, is to some extent dependent on whether you can prove that and whether that research is really there or needs to be done to justify it.

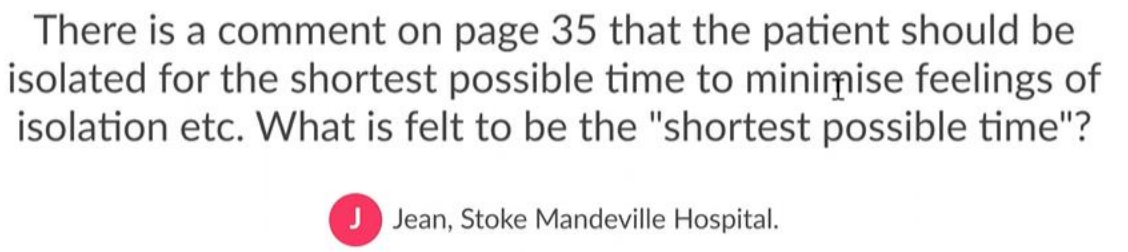
James Price 40:15

Thanks both, that's great. And as you allude to, the ability to inform on the directionality of transmission is always notoriously challenging, even whole genome sequencing doesn't have that ability, and so are we just picking up that again – it would be interesting to see if we can start to understand more.

I think – due to expert chairing – that brings us nicely to the 40 minute mark, which gives us time to move into our live questions. I've seen from our chat we've had a series of questions; I can tell that from our Slido. Thanks to everybody using Slido. What I'll do is I'll read some of these out, and it will be great to get our panel's thoughts on this.

Thanks Adel for putting this up. And whilst we've got this live session, there's still time to bring in your questions or like the questions that are already there so we know what people want to hear about.

So the first question we've got is from Jean Stoke at Mandiville Hospital: "there's a comment on page 35 where patients should be isolated for the shortest possible time to minimise feelings of isolation". I think it's really important that we recognise there are challenges around isolation of patients outside of IPC measures, but the question is: "what is felt to be the shortest possible time?". It would be great to hear people's thoughts about this, and also maybe from Maria's point of view of what perceptions there might be from the public about what is felt to be a reasonable time in isolation? Jennie, Hilary, if you have any thoughts on this?



Jennie Wilson 41:57

I would say it clearly depends on reason that you've isolated them in the first place. This picks up some of Hilary's points about decisions about isolation being made in the context of risk of the environment. So, for example, if you were looking at a care home setting – and we didn't look for evidence from care homes, not that I suspect we'd find that much. You know, your decision making would be very different: you wouldn't want to isolate people in a care home environment and you should be able to manage that situation using standard precautions.

In an acute ITU, you might want to keep the patient there until you're satisfied you've suppressed the organisms sufficiently. You may even decide that you can't even risk that if they are continuing with a course of antibiotics and so the suppression is not likely to be effective. I think there are two key things about it: one that you're proactive in ensuring that you're doing everything you can to minimise the period of isolation, and not allowing time to elapse while you're waiting for somebody to make a decision. The second thing is that communicate with the patient about the reason for

isolation and what the plan is to move the patient out of isolation and it isn't only about feelings. You know, the data shows that patients care is worse if they're in isolation because people don't go in – the carers don't go in so often, and things are missed. So those are the factors that I think are important in determining how long somebody should be isolated for.

James Price 43:30

Thanks Jennie. Hilary, is there anything you wanted to add?

Hilary Humphreys 43:40

No, I think Jenny has captured it. I mean, it's very difficult to be prescriptive about "as short as possible" because it's very contextual. Often also what comes into play – and I mentioned this earlier on – is that there are huge pressures on isolation facilities which may override them. So if you've got somebody with *clostridioides difficile*, and they've got profuse diarrhoea, they will take precedence in most people's view – or at least they would in mine – over somebody with MRSA, for example, in the nose or that's relatively well contained.

And I think Jennie's right, even if the patient is in isolation, if you're liaising with the patient, if you're making sure as far as possible that their care is not being compromised in any way, you know, that's important. But how long that can be? I think it's very difficult to be prescriptive in terms of definite times even for general situations.

James Price 44:36

Thanks both. I think we've, you know – certainly over the last 18 months we've all been making decisions about side room priorities that we wouldn't do in so-called "normal times", and trying to work through, particularly with respiratory viruses.

But it would be interesting just to reach out to Maria to see from a public and patient point of view, the kind of concept of using side rooms and how we do those, and trying to balance the infection control risk, but also the other challenges outside of that – the risks we have to take – as Jennie and Hilary alluded to. I'd be interested to get your thoughts, Maria.

Maria Cann 45:15

I agree completely with what's already been said. I mean, it's really important that staff do go in to the patients and don't miss things. Being cut off and isolated, you know, they would appreciate it if healthcare workers would go in and not treat them, you know, in complete isolation as it were. That dialogue with them is really important – then they actually understand the reasons that they're in there. And how long they are likely to be in there – as long as you have that communication with them and that dialogue, that's the most important thing.

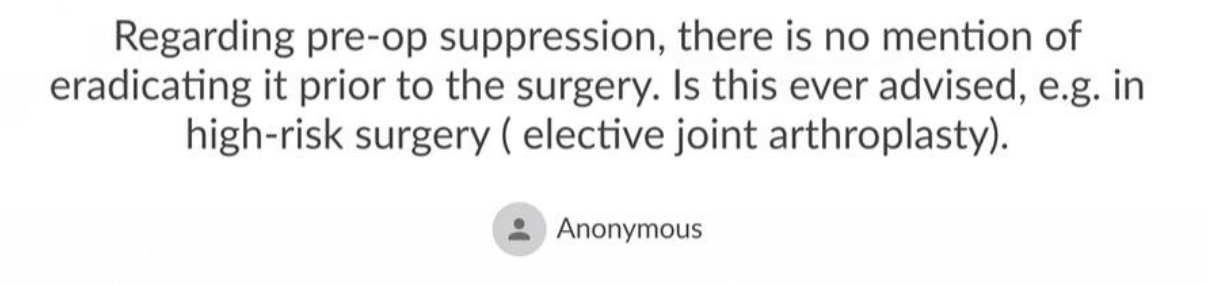
For any visitors as well, that sometimes can be difficult to deal with. Especially if a patient doesn't particularly want the reason for it – it might be that they don't want them to know they've got MRSA. So, that is quite difficult, how you cope with that – the confidentiality. I mean, it's obvious

that there is going to be some kind of infection going on because you will be asking your visitors to wear PPE, so that's also an area of sensitivity as well.

James Price 46:33

Absolutely. And not only the dialogue about placement within a side room, but if a decision has to be made to bring somebody out of a side room for priority, how that discussion is had, because you've just had a big conversation about why somebody needs to be in a side room – its so challenging. So, there needs to be some thought into how we take people on that journey of why decisions are being made.

That answers that question. I see Adel is ready for the next question. Adel if you're happy to share our next question with thumbs up. So we have a question here about preoperative suppression: "there's no mention of eradicating MRSA prior to surgery. Is this ever advised, for example, in high-risk surgery?" And we've got some suggestion around orthopaedics. So, in terms of suppression coming in and the word "eradication", it would be interesting to get people's thoughts on this, please. Hilary is that something you'd be happy to discuss?



Hilary Humphreys 47:44

Again, your evidence is variable, although I think in most situations people would try to electively screen for MRSA and if it's present eradicate before elective surgery, and preferably have it confirmed that it's been suppressed or decolonized before the actual surgery. It's a bit more difficult and challenging, obviously, in emergency surgery and then it goes back to the whole issue of how you screen and whether you use rapid methods and so on.

I think certainly, my view would be that where you have a situation where you have high-risk surgery, and particularly a prosthetic device being inserted such as an artificial joint or various other kinds of surgery – or perhaps a patient who's having general surgery, but it's a very high-risk patient, such as a transplant: I think you would do everything possible to try and ensure that you maximise their chances of doing well from the surgery in terms of minimising the risks of infection.

I think often the logistics of it is quite difficult and I think that particularly for emergency surgery and even with elective surgery to get those systems in place, that there's coordination between the outpatients, the GP, the patient – if you're asking him or her to take suppression therapy at home – I think that's where the logistics go. I think that would be something that certainly I would be in favour of.

James Price 49:06

Thanks Hilary. Jennie ,do you want to come in?

Jennie Wilson 49:08

Just with a couple of points. Firstly, it does depend on the type of surgery because in some types of surgery *Staph. aureus* is not a significant cause of surgical site infection, so understanding the causes of your surgical infections with that type of surgery is really important.

I think the other thing is that – especially now when we are under such pressure to get through surgery – I think we have to be really mindful of the experience of the patient that if we then start saying "oh, well, right, we're going to, you know, delay your surgery by six months in order to eradicate your MRSA…", when, actually, we can look at suppression then. So a lot of the studies that have looked at using mupirocin, for example, pre-surgery, have tended to take the approach that if you know somebody is carrying *Staph. aureus*, you just put the mupirocin in and do a body wash with chlorhexidine so you don't delay the surgery, but you ensure that you've minimised the amount of MRSA, or indeed ordinary *Staph. aureus*, that's there.

James Price 50:15

Thanks, both. I think, certainly over the last 18 months with COVID itself, there appears to be more of a focus on that discussion and that risk assessment at the time, rather than a blanket "yes, no that…". What is the need for this operation in the context of the infection risks? And having that discussion with the patient. I'd be interested, Maria, in your point of view about whether you feel things are changing or whether we could improve that dialogue? Because there's clearly that balance of risk and it's not just the infection risk that needs to be acknowledged. It's very easy to sit in the infection ivory tower and make one sort of recommendation, but clearly, there's anxiety, there's all these processes that are being discussed. I'd be interested to hear your thoughts.

Maria Cann 51:05

I think if somebody isn't MRSA… Some people carry MRSA, and you know it will keep coming back. So I think what Jennie was saying is actually right – to say that you're going to delay surgery almost indefinitely until that person is clear of MRSA, I mean, that just isn't practical, and that would be a real detriment to the patient. Because keeping them waiting for their surgery, it is not really an option. There is prophylactic treatment that you can use prior to surgery to minimise the risk and try and suppress the MRSA or the *Staph. aureus*. I think that's really, really important.

James Price 51:52

Thanks Maria, and over to Hilary.

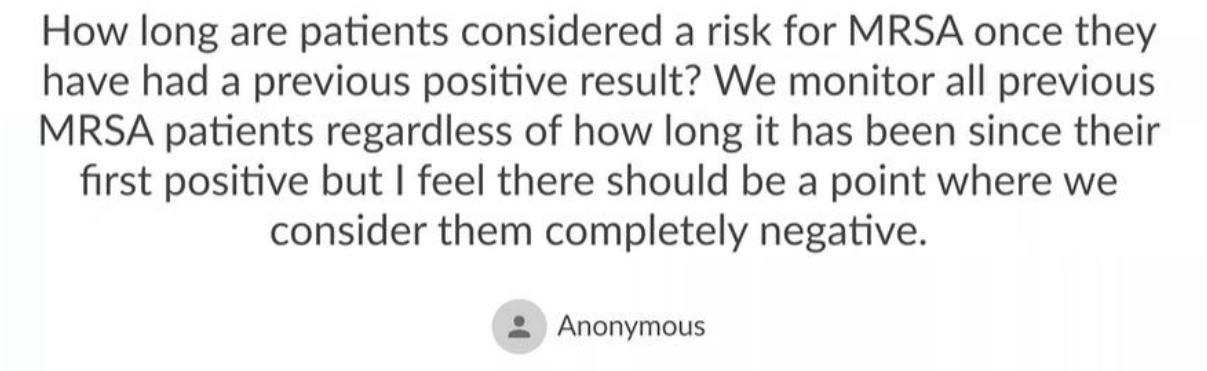
Hilary Humphreys 51:55

Just a very quick point. I've always taken the view, and colleagues as well, that when you look at whatever infection prevention and control measure, you introduce the individual patient. The question you ask yourself is: are you depriving this patient of badly needed care whatever it might be? And if depriving the patient of care or delaying it is worse than the risk if you like – I mean, it's another way of putting risk assessment – but if you put it in stark terms, is what you're doing for MRSA actually seriously compromising that patient's care? Well, then what you do is you don't compromise the patient's care, you do as best as you can, in terms of screening, suppression, prophylaxis, and so on, so forth. But you go ahead with the surgery and you go ahead with the admission or whatever it is. So it's about trying to keep the bigger picture in terms of the patient's needs and not – sometimes we can be guilty of this as infection prevention and control practitioners – just seeing it in terms of perhaps a little bit of tunnel vision.

James Price 52:56

Thanks Hilary. And I think in terms of the other aspect of this, in terms of communicating etc., is when we identify those people that are MRSA colonised in hospital and then they're discharged. And I think there needs to be that sort of link up with our communities – which I think we're doing and through ICS we'll be able to – but ensuring that that sort of information is out there to the GPs, to the communities and help supporting our patients after they're discharged as well, because I worry there's potentially some disconnect there. And everybody's busy, but once someone has left hospital, it becomes a bit more of a challenge. Just my thoughts.

Let's see if we've got another question? Coming up now, thanks Adel. This is a longer question, so let's have a look: "how long are patients considered a risk for MRSA once they have had a previous positive result? We monitor all previous MRSA patients regardless of how long it's been since their first positive, but I feel there should be a point where we consider them completely negative". Fascinating question, and our next webinar is going to be focusing on screening and things like that, but I wonder if anyone has any thoughts on this that they'd like to raise as maybe a taster to move into our next webinar. Hilary?



Hilary Humphreys 54:22

Well, I wanted to fill the vacuum more than anything else!

It's a really interesting question and it's one which I don't think there is a dogmatic answer. Because of what we've already discussed – the idea that maybe you're suppressing rather than decolonizing and because of limitations in the testing, even if they have improved over the years, and also the

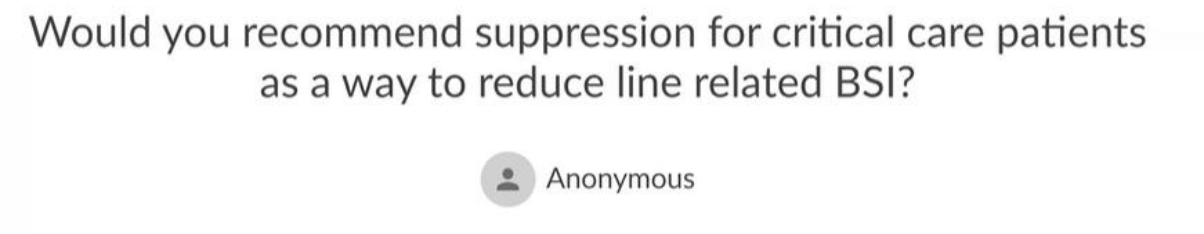
circumstance of the patient. So for example, I'm just going to give an example, if you, say, have a patient and you have three samples post-decolonization therapy, and they're negative and that patient goes home and doesn't come into hospital again for ten years, hardly ever gets an antibiotic, probably that patient is negative. However, if you have a patient who's three sets negative, and you know, they're in and out of hospital, and they're on antibiotics, or they're coming from care homes or whatever, they are much more likely to find out subsequent tests have been positive. So I think the principle that if you were MRSA in the past, and you come back into hospital, you should err on the side of assuming that there could still be MRSA and work accordingly – particularly in high risk areas or high risk patients.

Now clearly, that has to be communicated with the patient. And I think the difficulty for patients – and we've already partly covered this – you screen a patient, you do suppressive therapy so hopefully you may show that they're negative. And they're then quite likely to say "well, if I was negative, you know, am I not negative?" And that's a really difficult issue and it's not understood by a lot of healthcare practitioners, never mind by patients or members of the public. But that's the reality of the fact that our knowledge of MRSA is that it can persist for long periods, and there are multiple factors which include that.

James Price 56:09

Thanks Hilary. We've seen some comments in the chat about environmental reservoirs at home and the pet dog that might be contributing towards it. We're understanding a bit more about the kind of "cryptic carriage" of *Staph. aureus* that's undetected but still present – whether that's in low numbers or inside cells or deep in tissues, and I think there's still a great piece of work that needs to be done. But I think we're certainly going to hear more about that on the 24th of November, so why don't I leave that there to give everyone a bit of a taster for what to expect.

And I think we've got time for another question – we could squeeze in another question if that's okay? And we have the question of: "would you recommend suppression for critical care patients as a way to reduce line related bloodstream infections?" What a fascinating question. We know that we all report on our healthcare-associated MRSA bloodstream infections and we get lots of national views on this and interesting to hear people's thoughts on whether this kind of suppression in addition would be useful, particularly in critical care patients. What are people's thoughts on that?



Jennie Wilson 57:20

I'm sure Hilary has some ideas on this as well, but I would just say that I would refer you to another guideline, the EPIC guideline, which provided evidence that using chlorhexidine washcloths – there is a meta-analysis of using chlorhexidine washcloths – as a way of preventing BSI generally, so not MRSA specific. And again, I think we can get slightly hung up on one organism because we happen to know that it carries resistance to an agent that we're interested in. But we forget that in terms of

bloodstream infections, there are many pathogens that can cause bloodstream infection and patients are probably more likely to get staphylococcal or staph epi bloodstream infections than they are MRSA. So in a sense that says suppression is important, but it doesn't necessarily have to be anything more than using chlorhexidine as a regular basis in decolonising the skin.

James Price 58:23

Thanks Jennie. Hilary, did you want to come in?

Hilary Humphreys 58:26

I suppose when Jennie raises this issue, and I think this is more a terminology in North America perhaps than Europe, but this idea of sort of "horizontal measures" and "vertical measures" – so our horizontal measure is, if you like, chlorhexidine for every patient in a critical care area where it's a horizontal, or a vertical measure is a more specific measure such as mupirocin decolonization of the nose. And you're right, the horizontal measures are really the measures that are going to prevent as many infections as possible whether they're MRSA or otherwise.

I suppose in the context of that particular scenario, my own sort of view would be that I would try, and if it still emerged despite chlorhexidine bathing or if chlorhexidine bathing wasn't used, I think I would try and get rid of it – number one, because they've got a device in, so they are at risk of MRSA bloodstream infections, they are in critical care. And secondly, I guess, you also may – depending on whether it's a single room or not – you may also prevent the spread of that MRSA to other patients in the critical care area. So I think that's one area where I think most people would probably try to eradicate the MRSA, for those reasons.

James Price 59:30

Thank you. Maria, do you think in terms of these – we've spoken about maybe evidence-based use of certain things to try and prevent infections. Do you think there's a feeling from a public or from a patient perspective that that's an acceptable – there's an understanding that we have to try things to try and do that, maybe where the evidence is not quite there.

Maria Cann 59:53

I mean, I think that example – if you're sort of making sure that you're doing the best you can to eradicate any microorganisms from the skin that then could go into the bloodstream I think that's really important. Perhaps we do need some more evidence to look into that, because most of the guidelines that we write are all evidence based. It seems to be a sensible approach to me.

James Price 1:00:25

Thank you. And I think that nicely brings us up to six o'clock, which means we've come to the end of our hour. So, I would like to say a big thank you to our panellists: to Maria, to Hilary, and to Jennie,

and to pass on apologies from Lisa, who's unable to join us today, but I'm very sure we're going to be able to rope her in to join us in another webinar at some point.

So, I'd like to thank the Healthcare Infection Society for hosting the webinar, and the audience for participating. Certificates of attendance will be sent out after the event. A recording and the transcript of the webinar will be available on the website very shortly as with all of the other webinars and the resources is that we have in place. And to remind you that the next webinar is going to be on the 24th November, which is going to be covering the screening, surveillance and environment related to our MRSA guidance. Thanks for popping up that slide Adel. Just to wish everybody a good evening thanks, everybody.