SCOTTISH HOSPITALS INQUIRY

Hearings Commencing
19 August 2024

Day 12
Wednesday, 4 September 2024
Dr Penelope Redding

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10:02

THE CHAIR: Good morning. I think we're in a position to begin with today's witness.

MR MACKINTOSH: Yes, my Lord. Today's witness is Dr Penelope Redding.

THE CHAIR: Right. Good morning, Dr Redding.

THE WITNESS: Good morning.

THE CHAIR: As you understand, you're about to be asked questions by Mr Mackintosh, who is sitting opposite you, but first, I understand you're prepared to take the oath.

THE WITNESS: Yes, I am.

Dr PENELOPE REDDING
Sworn

THE CHAIR: Thank you very much, Dr Redding. Now, as far as timing is concerned, I anticipate your evidence may go into the afternoon. We usually take a break about half past eleven for coffee, 20 minutes or so, but something I say to all witnesses is that if you want to take a break at any time, all you need to do is indicate that and we'll take a break. So, I'd like you to feel that you're in control of the situation.

THE WITNESS: Thank you.

THE CHAIR: Mr Mackintosh?

Questioned by Mr MACKINTOSH

MR MACKINTOSH: Thank you. (To the witness) I wonder if you could state your full name, please.

A Penelope Jane Redding.

Q Dr Redding, did you produce a statement for the Inquiry?

A I did.

Q Are you willing to adopt that as part of your evidence?

A I am.

Q Now, we've read the statement, and it's a long and comprehensive document, and what I'm not proposing to do is to go through it section by section but rather to pick up parts of it that appear to be of interest to the Inquiry. So please don't think that we haven't read the parts I don't touch on because we have read them and taken them on board. You explained in your statement that you-- I want to get some dates right before we start. You explain in your statement that you became a consultant microbiologist in 1984 and you retired in March 2018.

A That's correct, yes.

Q I take it that, by the time you retired, you must have been probably the longest-serving microbiologist then in the city?

A Yes, probably at the time, yes.

Q Yes, and I want to just check a

few bits of the chronology I've understood correctly and maybe connect them to other things that other people have done so I can put it in context. I understand you were the lead ICD for the Southern General University Trust until August 2008. Have I got that right?

A Yes. Well, I was the infection control doctor. It wasn't called the lead.

Q It wasn't called the lead?

A It wasn't the lead-- called the lead ICD at the time. That was more formalised when the new structure came in, so I----

Q So it was just called the infection control doctor?

A Yes.

Q Yes. Were you the only one?

A Well, there were other infection control doctors under----

Q But they were under you? Right.

A Yes.

Q So although it wasn't called the lead, nowadays, we would see it as that.

A Yes.

Q Yes, and that, in a sense, that means that you were one of the predecessors of Professor Williams when he was the lead ICD for the whole Board around the time the new hospital opened?

A Yes. When I gave up infection control, that was a new post, the lead ICD for Glasgow. That was a new post and I was asked if I was interested, and I wasn't at the time because I was clinical director and that's when the first appointment was made and that was Professor Williams.

Q Right, and in a sense, to some extent, that would have been a merger of this-- of all the ICDs for all the trusts in Glasgow together into one post.

A Yes.

Q Right. Now, I want just to understand a little bit more about what you were clinical director of and when. So, you were clinical director of the laboratories directorate?

A I was, yes.

Q Until when?

A Are we just talking about the Queen Elizabeth? I was clinical director of the Victorian Family Trust for a time.

Q Yes.

A And then, from 2008 to 2011, I was clinical director for all the labs for Greater Glasgow and Clyde.

Q So that's after this merger process?

A Yes.

Q Yes, and you resigned from that role in March 2011?

A Yes.

Q And that would mean you would been working solely as a consultant microbiologist from then on

until you retired?

A Yes.

Q Did you have any other formal responsibilities other than being a consultant microbiologist?

A No, not really. I just worked as a consultant microbiologist.

Q Now, we haven't yet heard from a consultant microbiologist who's just doing that and, indeed, most of the microbiologists we will hear from in the rest of the Inquiry were, at times, infection-- having had infection control and prevention sessions, or they were lead ICD for some aspect of the services in the hospital.

So it'd be quite useful just to get some basic concepts clear in our minds before we start. This sounds a very, very silly question, but what is the primary sort of work pattern of a consultant microbiologist in the time-- in the final years before you retired? What were you doing on your average day, average week, if that's a legitimate question?

A Would it help if I said a bit of background about----

Q Yes, it would.

A -- microbiology and what microbiology does? So there are four major laboratory disciplines and microbiology is one of them, and microbiology provides a service where you get specimens from patients, environment, water, which you analyse in the lab by culturing, so you're trying to grow the bacteria. There are other investigations that you might do in the lab, but on the whole-- So you get specimens from, obviously, mostly patients, and I think key to the process of that is that you'd need to know exactly where a specimen has been taken from. Part of the role of the microbiologist might be to advise the clinicians, "You need to take this specimen from this patient if you've heard the story of what's going on."

Q It might be from a particular system within their body.

A Yes.

Q Part of their skin or----

A You might say you need to take a sputum sample or you need to take a wound or you need to do a blood culture, so there are various specimens that can be taken. So that either might be instigated by the ward themselves, because they know what they have to do, or if there's been involvement of-- with a microbiologist, they may give you advice on what specimens need to be taken. And just-- I think it's important to understand that whatever specimens are taken need to be properly-- you need to know exactly where the specimen has come from.

Q Yes.

A You need to make sure that it's properly labelled so you understand where on the patient or where in the environment that specimen has been taken, and so the information that comes to the lab has to be very accurate and very precise. So, once a specimen arrives in the lab, most of the specimens, which is what I'll concentrate on, are then cultured, so we put it on culture media, agar plates.

Q So this is a small glass dish with a sort of jelly in it?

A Yes.

Q Yes.

A They're a liquid medium, and there are other things that we might do. Now, every specimen is dealt with differently, so we don't process every specimen in exactly the same way. So it depends what you are looking for.

Q So if you're looking for bug A, you will process it in a way that will encourage bug A to grow, effectively?

A Yes.

Q Right, but that won't necessarily be a way that would encourage bug B to grow?

A No.

Q No.

A So you obviously have a standard operating procedure in the lab that will say, "Right, this is this specimen, this is-- these are the plates."

Q Yes.

A So, for example, if you're talking about a faeces specimen, there's maybe 12 or 15 different ways that you could actually process it, and so----

Q And you would pick the ones that you thought were relevant?

A Yes, and that depends on the history of the patient, for example, if they've travelled abroad or something in that particular instance. So, depending on the history of the patient, you will then decide which plates are put up and there are some special plates that will grow organisms that won't grow on standard plates. Does that make sense? So there are some bacteria that have growth requirements that require special agar plates to be----

Q And that's because of the nutrients or----

A Yes.

Q -- the pH or something on the plate?

A Yes, all sorts of things. Also, if you're taking a specimen from something like a throat swab where you've got a lot of normal bacteria, you might have to put up plates that stop up those normal bacteria growing to allow the ones you're looking for, so the pathogens, to grow through.

Q So you want to discourage the things that you know are there anyway

but don't care about?

A Yes.

Q Right.

A And encourage the ones-- because some of them are very small or some of them have particular growth requirements, so that's a skill in the laboratory of how you process a specimen.

Q That's very helpful. Before we move on to the rest of your explanation about what a microbiologist is doing in the laboratory, for an environmental sample, it's broadly the same sort of problem of working out what you're sampling. Does that apply for environmental samples as well?

A Absolutely. Any samples that come in, you would decide what you are looking for. So if you're having an environmental specimen and you were looking for a particular organism, you would make sure that the plates that you put up on that specimen will allow the growth of that particular organism.

Q So, just before-- as a slight distraction, but you're helping me understand a few things. If you have a plate and you put your sample on it, your environmental sample, do you-- once it's grown, do you look at every single sample on the plate, or do you select certain growths on the plate to look at further?

A Well, you might, probably-- you've probably got more than one agar plate.

Q I see.

A So, you know, you might have three or four different plates. For example, you want the-- you may be looking for the organisms that need oxygen to grow and the ones that need no oxygen to grow, so you have to put that in an environment. You would look at the plates and you would recognise – hopefully recognise – the colonies, or you'd have an idea looking at the plate, "Oh, that looks like Staph aureus" or, "That looks like Pseudomonas," and then you would--

So the organisms or the culture-- the colonies on the plate might have different appearances, and so what you would then-- I'd try and identify-- select the organism that you think is of interest, and then you would go and do further work on it.

Q So you'd effectively look at a particular colony on the plate----

A Yes.

Q -- because you thought it was relevant?

A Yes. So, when you get a specimen in the lab, you would then-- it would be 24 hours before you can actually look at anything because it has to be incubated and, again, they may be

incubated at different temperatures depending-- because, again, some organisms have different growth requirements.

So, you look at the plates at 24 hours. You look at them again at 48 hours. You look at them again maybe at five days, seven days, because some take longer, if you're looking for tuberculosis, sometimes it maybe takes six weeks to grow. So, again, depending what you're looking for, you have to ensure that you have the requirements for that particular bacteria.

Q That's very helpful. So you started on this explanation because I asked you about what, in effect, microbiologists-- you were doing as a microbiologist, and you wanted to explain a bit more of the role of a microbiologist. So can we get back to that, the role of the microbiologist? You've got the advice. You've got the growing the samples. Any other particular aspects you consider important?

A Well, if you're looking for organisms, you've obviously got to identify the organisms that you grow, and there are the laboratory methods for doing that, and then, if it was in a particular patient sample, you would then have to do antibiotic sensitivity testing so that you could give relevant antibiotic advice depending on the sensitivity of that bacteria to different----

Q Would that involve applying antibiotics to the plate, effectively?

A Yes. You would-- you take off the colony on the plate and you then put it up against a batch of-- and different antibiotics on a plate. So-- and where there's no growth around-- there's a little disc, a little filter paper disc----

Q With sort of cones out-- wedges that----

A Yes, and you get a little-- So it's a circle that has the antibiotic in it and then you measure the size of the circle that-- where there is no growth on the plate to decide whether it is sensitive or resistant to that particular antibiotic. So, again, you select which antibiotics you test according to the bacteria that you're testing.

Q Presumably that takes time as well?

A Yes, so probably for-- to get at something with a straightforward specimen, it would be 48 hours before you probably had sensitivity testing, or there are now automated methods. It can maybe be a little bit quicker than that, but you're probably talking sort of 48 hours on the whole to get a result-- to get a full result.

Q That's the sort of testing reacting antibiotic resistance. Is any other particular key part to the

microbiologist's sort of day-to-day job that you would want us to understand?

A Well, so, specimens come into the lab, they're analysed, you go through the standard operating procedures and then, as the results are produced, at each stage, one of the technical staff and biomedical scientists might draw to your attention that there is a problem. So they might not be able to produce a report. They might come to you and say, "Oh, we've got a group A strep in this specimen" or, "We think we've got salmonella" or along those lines.

So, at each stage of the processing, the microbiologist, we would have key organisms that we ask to be alerted about and they would come and you might then have an intervention with the clinician on the ward.

Q So you go and tell the clinician, effectively, what to do?

A Well, "We think this patient may have so-and-so," and we would give antibiotic advice at that stage.

Q And so, at various points in the last couple of weeks, Infection Control and Prevent nurses have explained to us how they would-- the Infection Prevention and Control Team would be told by the lab about a certain microorganism. Is that happening at the same time as you're telling the clinicians?

A Yes, absolutely.

Q This question seems important but for later events: how do you know what's important? How do you know whether to tell the Infection Prevention and Control Team on a particular thing?

A Well, if you've-- I mean, you've heard about the alert organism list. So, you've got your alert organism list, so any organism where you think there may be a risk of cross-infection to another patient or you maybe need to put infection control measures in place-- So, if you had a group A strep, that was something where you would say, "That patient needs to go in isolation" or you might say, "We have-- Looks as if this patient might have salmonella. Put them in isolation."

And it may well be after 48 hours or later that it turns out not to be, so you can then remove the precautions. But, at the earlier stage, the microbiologist or the Infection Control doctor-- you might tell the Infection Control doctor or the microbiologist might just inform the Infection Control Team of the alert organisms or anything else that you thought might be relevant.

So if you know, for example, you've got a possible outbreak with Klebsiella in the hospital, every microbiologist should understand that, so if they get a Klebsiella that's linked to a potential outbreak -- that they would know. Because the Infection Control doctor

doesn't see all the results – there's thousands going through every day – you would know to alert the Infection Control Team, even though that was not an alert organism.

Q So you've got the alert list. You've got things where there's an obvious consequence of reinfecting other patients. So things that aren't on the alert list for that, it's true you'd tell people about them. You'd tell people about infections of a type that's already been noticed in the hospital and is, as it were, being paid attention to, but we've also heard a lot about unusual microorganisms. What do you understand by the expression "unusual microorganism"? It gets bandied around a lot.

A I suppose, in my simple brain, I would be saying, "Things that you do not see very often." Now, if we're talking things like Stenotrophomonas and some of the other organisms that have been talked about, those are things that you just do not see very often.

Q So how do you ensure, as a microbiologist or even a clinical director for laboratories, that the scientists in the microbiology labs are flagging these unusual microorganisms up the tree, as it were?

A Well, we would usually have a meeting every morning with all the consultants and the people so that you'd have the duty room----

Q And this is within microbiology?

A Within microbiology, and there, you should be briefed on the problems or things we're looking for on so-and-so. For example, you might say, "Well, we've had two patients with Pseudomonas that's resistant to gentamicin, which is unusual. If we have any more, we need to, you know-- We're not sure if there's something going on but we just need to be aware of it so you need to alert"----

Q I understand how----

A Does that----

Q -- the alert list triggers action. I understand how things we are worrying about – because they're already, as it were, in the hospital to some extent – we need to know about more of them, and I understand how infections that have an obvious impact on other patients and staff because they're infectious would also naturally climb to the top of people's minds.

But I'm thinking about the genuinely unusual, and so Stenotrophomonas is a good example. In any scenario where there are more than one Stenotrophomonas infections in a hospital and there is a discussion about whether there's an outbreak and whether there is an environmental connection and

all these things are eventually going to happen, how do you know to report the first case? Or how do you not fail to report the first case?

A Well, I suppose if there's one, you might just say, "We've had one case of Stenotrophomonas," and you wait and see if there's possibly another one. It's difficult to-- There is also an element of experience around it as well----

Q I'm conscious of that.

A -- which is difficult to explain, but it tends to be that there's perhaps more than one or you've seen one six weeks ago and you've got another one and you think, "That's really unusual."

Q Because the thing that----

A (Inaudible) finding it-- Does that make sense?

Q It does. I want to press you a little bit further, and I'll use an example because I can-- from the top of my head, I can do some dates for this. We know that in 2019 there was a Mycobacterium chelonae case in the Schiehallion cohort, as it were. We read about that in IMTs. I mean, you weren't working then, but we know about that.

We know from that exchange in the IMTs that there was a previous case. We know from the patient, in fact, in February of the previous year, 2018, and indeed it's mentioned briefly seemingly in one of the IMTs, and we're going to explore that with the relevant doctors and nurses as we go through the hearing.

Our expert panel have noticed that in the bloodstream infection sample data we've received from the hospital there seemingly was another case in early 2016. That doesn't appear to have prompted a PAG or an IMT or a report to HBS or anything – and we'll obviously find out in due course if anyone noticed at the time and, well, that could be possibly quite important for that particular story in terms of the Inquiry – but how would you have a system that could reliably spot that first infection of those three? Or is it really that you just rely on the experience, skill and professionalism of your microbiology team?

A Yes, I mean, you are relying on somebody bringing that up and alerting that, "This is really unusual. I've never-- You know, I've never seen that organism before."

Q So you can't have a system? You have to rely on professionalism, effectively?

A Yes, yes.

Q Right. Now, that was a long distraction from my first question, but what I want to do is just to move onto something that you mentioned in your statement, which is at paragraph 20. Now, what we'll do is we'll put paragraph 20 on the page, and it would help if I had

the copy with the numbers.

THE CHAIR: Mr Mackintosh, I hesitate to sort of take you out of order, but the-- I mean, we have heard the expression "unusual infection," as you rightly say. I think I rather want to ask Dr Redding why one unusual infection is of significance, from her perspective.

Q Yes, I think I'll bring that out of sequence.

THE CHAIR: Does that sort of take you out of order?

Q No, it doesn't. It just-- If we go back to unusual microorganisms as a concept, is there any more that we can understand about what it is that makes an unusual microorganism important at the moment it's found, other than the fact you don't see them very often?

A I think that's the primary thing, that you-- I mean, there are certain things that maybe I've seen once or twice in the whole of my career, and that would be certainly seen as unusual.

Q If you're a new microbiologist who's not a consultant and you're a lab scientist, even, and-- how would you know that this thing growing on the plate, that presumably you weren't looking for because you described----

A Not particular-- Yes, yes.

Q Yes. You've described how you look for things.

A Yes.

Q So let's imagine you're looking for A and you apply the growth medium and the temperatures and everything that helps A to grow, and serendipitously, Z appears on the plate. How would someone know that is that thing?

A I think, from memory, the microbacteria were from blood cultures, weren't they?

Q Yes.

A Right, well, blood cultures should be sterile.

Q Got it.

A So if you've got a specimen which should be sterile, no matter what you grow in it, you've got to identify it and you know that it should not be there.

Q So this wouldn't be true for environmental infections, but it would be true for blood samples?

A Any sample-- anything that-- any growth that you-- You can get contaminants in blood cultures, but any sample, any isolate from a blood culture has to be taken seriously.

Q Right, and the same would apply, presumably, for other-- like spinal fluid as well? Others----

A Any organism. There are occasions where you can get contaminants in blood cultures, and there are various reasons why that might be, but, on the whole, anything in a blood culture would have to be considered and

identified.

Q So if it's from a blood culture, the unusualness is simply that it's there?

A Yes.

Q And then the unusual that it's not common is the second unusualness?

A Yes, yes, yes.

Q And that's all you need to know that it's unusual?

A Yes. I mean----

Q And then you go and work out what it is?

A Yes, and then you have to identify what it is, and that can be difficult sometimes or easier, depends on the organism.

Q So it's not like with an environmental sample where there could be tonnes of things in there and you're looking for one of them?

A Or two of them or three of them----

Q Or two of them or three of them.

A -- or whatever. It depends. It would depend. Yes.

Q That's helpful. You mentioned in your statement, and I think I pick it up here, the concept of a "resident organism," and I wondered what you meant by that.

A Well, those are organisms that you would find on your skin, in your mouth, so the normal bacteria that people would-- we all have.

Q And we all carry those?

A Yes, we all carry those, yes.

Q And some of us might carry slightly more concerning organisms on us, which would be a problem if we're having an operation, for example?

A Yes.

Q And would those organisms also have a risk of being transmitted to patients in the same bay or the same ward, potentially?

A Well, you've got-- There is a risk of-- It's not as simple as that. I'm trying to-- Sorry, I'm trying to think my way around this. Right. There are certain organisms, for-- If we just take Staph aureus, that you might have a Staph aureus or an MRSA up your nose.

Q Yes.

A So that was clearly a risk to you if you have an operation that a wound might become infected by, you know, MRSA – let's say MRSA, everybody's heard about that one – in your wound. So obviously, again, it is also a risk to other patients if your MRSA is spread to another patient.

Q And that could spread through equipment, through lack of care----

A Contact or in the, you know, airborne. It depends on the organism because there are different means of different transmission, and as far as your

flora – if we just call it your "normal flora" – are concerned, that normal flora can change. So if you've been in hospital for a time or you have had antibiotics – as we all know, we're not supposed to use antibiotics because it affects your normal flora – your normal flora can change.

So, if you are in a hospital and you're exposed to environmental organisms that might be in the atmosphere and you've had antibiotics, the flora that you carry that's not causing you any problems at that moment in time can change.

Q And might acquire things from the hospital, effectively?

A Yes, so you might be carrying on your skin or you might have it in your-- in your bowel or something like that. You might-- The flora that is yours has changed.

Q Right.

A Does that make----

Q So those are all resident ones?

A So they-- they may then become your resident ones. They may change. Your resident microorganisms may change because you've had antibiotics or because you've been in hospital for a while.

Q Now, without getting into too much detail, is it possible that some of the potentially environmental organisms that we are talking about in this Inquiry are also resident on some of the patients who come into the hospital and are in the hospital, on their skin?

A It's possible that that-- that's possible, yes.

Q Right. Now, whilst we're on the subject of definitions, I thought I'd just ask a question I've been asking: a lot of people talk about contaminated water. What do you understand by the expression “contaminated water” in the context of a domestic hot water system or cold water system?

A Well, there are standards for water of how many microorganisms you are allowed, and so the total viable counts that are allowed. So, for me, that would be healthy water or would be water that ticks all those boxes, so you're only allowed a certain number of bacteria.

Q Yes.

A And most of the testing on that sort of-- on a routine sample would not be looking for microorganisms. You're just looking for total viable counts.

Q Of any bacteria or fungi?

A Yes. I mean, so it's a total thing that you have. I don't know what the numbers are off the top of my head. I can't remember, but you would say, well, you know, there are less than whatever the criteria that are quite clearly well defined.

Then, I suppose you've

got-- but within that, you might have-- you're not identifying any of those organisms, so you still have-- Within that, you might have-- The total viable count – this is my understanding – would be within normal limits. But when you actually look at these colonies, which we've talked about, on the plates, you might say, “Well, there's only 10, so that's okay. You're allowed 100.” I'm just making those numbers up off the top of my head, but-- so there's-- but we're not--

So we don't need to identify them, but then, if you think you have a problem or you're worried about the water supply, I mean, things that should not be in there, you would then go, “Well, we need to identify what these 10 colonies are,” and that's when you would-- I've called it in my statement "enhanced testing," where you would say, "Well, we need to do enhanced testing. We need to look at----"

Q So enhanced testing is more than just counting the total viable counts? It's actually working out what all the total viable counts are?

A Yes, it is actually identifying the microorganisms. So you may have the right, you know, maybe acceptable limits in the numbers, but you need to identify the bacteria that are in that water supply.

Q So does that raise the question-- I suppose that raises the question of, is it fair to say, however, that it's not possible to have, effectively, sterile water in a hospital, and so that looking to exclude all these bacteria is an unnecessary over-vigilance? Once you go below the total viable counts, the numbers are so low that you shouldn't need to worry because water can't be sterile, is a point of view that's been expressed.

A Well, water-- no. The water is very unlikely to be sterile and I think-- I think a water expert could go into more details on that. That's my----

Q No, I wanted to see what your understanding was. That's very helpful.

A You know, my understanding-- Yes, and that's my understanding of what you mean.

Q Now, I'm going to go back to your statement, but I'm going to make the depressing news to my colleague behind you with the video system that I'm looking at a copy that hasn't got page numbers on it, so I can only apologise to him for what I'm about to do, and I will change that at the break. If we can go to paragraph----

THE CHAIR: Could I just-- Mr Mackintosh, it's my fault. I just really want to make sure I'm keeping up. Mr Mackintosh's question began with, “What do you understand by ‘contaminated water’?” Now, do I understand that your

answer to that is, well, you can look at the total viable count, which I'm understanding is everything in the water, and you then said but you would then need to identify what it is, first of all by identifying number of colonies and then perhaps identifying what the colonies are.

Can I just make sure, as I say, I've got your answer to Mr Mackintosh's question, what do you understand by "contaminated water"?

A Well, the routine water testing will just be looking at the total viable counts, and also, they're looking for Legionella, so that's a specific thing. I think it would be linking into, if you think you have a problem with-- you would then say, we need enhanced water-- A part of a theory or a hypothesis would be, could it be the water? You would then-- and that-- and the clue to that would be you may be getting Stenotrophomonas or other organisms that you know like water.

So you might at that point-- you would then go and say, "Right, well, we need to do enhanced [what I call enhanced] testing and identify these bacteria." And then, I think if you-- well, I would start then to be really concerned if I found the organisms that you're looking for in that water supply.

THE CHAIR: Right.

A Does that-- does that make sense?

THE CHAIR: Well, what I'm taking from that, I mean, it's just-- I'm just wanting to know if I'm keeping up, but what I'm taking from that is, at the end of the day, it depends on whether the water supply contains particular microorganisms which, from your perspective, are significant. I'm assuming, from your perspective, it's significant. Is there potential to give rise to important infection?

A Yes, in certain groups of people as well.

THE CHAIR: In certain groups of people?

A I mean, for a healthy person, you probably wouldn't be as worried as you would be with-- for an immuno-compromised patient.

THE CHAIR: Right. Thank you.

A Sorry, that's----

THE CHAIR: As I say, I'm just making sure that I'm----

A I'm not a water expert. I'm just trying to-- from my-- in my head, that's how I would----

THE CHAIR: Right, thank you.

Q Thank you. So, if we can go to your statement, which is paragraph 20, page 9 of the statement, but it's not page 9 of the bundle because-- it's 72. The next page, please. Yes. Now, I'm looking at this paragraph 20. You discussed briefly structural changes

made to the Infection Prevention Control team in the aftermath of the Vale of Leven report. Do you remember setting this out in your statement?

A Yes.

Q You've explained that:

"The IPCT structure [the Infection Prevention Control Team structure] was put into place at that point, and the managerial function was removed from the laboratory directorate... "

Because you'd been the clinical director for laboratories in the previous trust.

A Yes, I had.

Q Yes, and I believe it was given to the ICM and the lead ICN. Now, the ICM is the Infection Control Manager.

A Yes.

Q And the lead ICN would be a nurse, senior nurse consultant.

A Yes, yes.

Q And the director of laboratories had always been a microbiologist in the past. Or the head of the laboratory directorate, would that always have been a microbiologist?

A Well, yes. You've got your diagnostic directorate and that has a medical director, and then you've got the laboratory and within that, you've got imaging and the laboratory directors, and within the laboratory directorate, you'd have the clinical director of laboratories.

Q And that would be a microbiologist?

A Yes.

Q Right.

A No, no, no, no, sorry. That would be a medic.

Q A medic?

A That could be-- that could be a pathologist, it could be a haematologist, it could be a microbiologist, a biochemist. It's----

Q But it would be a medic?

A It would be a medic.

Q Right.

A It would be a consultant.

Q That's the point you're making there.

A Yes, it's a consultant.

Q So what, in a sense, is wrong-- because you then go on to say:

" In my view, these changes are the start of the fundamental problems with Infection Control in Glasgow."

So what is wrong, in your eyes, with putting the managerial function for Infection Prevention and Control into the hands of the Infection Control manager and the leading ICN, as opposed to the medic in the laboratory directorate?

A Well, when Infection Control

was within the laboratory directorate, the general manager for the laboratories worked very closely with the infection control doctors and infection control nurses, and it worked very well, it worked very smoothly. Now, whether that was because of personalities or whether-- but it worked well because you rely on the microbiology lab and it's all under the same management.

Q So you had the lab and the Infection Prevention and Control team in the same management structure?

A So, yes, the general manager would be the general manager for all the lab disciplines, including microbiology, pathology, haematology, blood transfusion, etc., and they would be responsible also for the running of the microbiology and the delivering of the service. You can't have an infection control service without a microbiology laboratory, so they are responsible, managerially responsible, for ensuring that the microbiology department delivers microbiology service and an infection control laboratory as part of that service.

Q But is it your understanding that, under the new system that you're talking about being created here, the Infection Prevention and Control team is separate from, in managerial terms, the microbiologists in the lab?

A It is. That's where it gets quite messy because you've got the microbiologists and the infection control doctors reporting through two lines. So they report within their responsibilities as a microbiologist, in fact, through the laboratory directorate, and from an infection control point of view through the Infection Control. I was never really involved with this, the whole new structure, so I'm just seeing it a little bit from the outside, yes.

Q I appreciate that and you make the observation at the beginning of this paragraph that these changes were made in the aftermath of the Vale of Leven report.

A Yes, that's my memory of it.

Q To what extent do you understand whether the reasoning behind the changes-- it derives from any recommendations of that report?

A I think it was a recommendation of the report that this-- a new structure was put in for Infection Control. It's my memory of it, but it's quite a long time ago now.

Q Right. Do you have some, as it were, disagreement with the authors of the Vale of Leven report about whether this is a good idea?

A I just think, from experience, it just didn't seem to work, I think, in the-- yes. So, maybe they thought it was a good idea at the time, but I-- you know,

my experience was that it didn't seem to work, just----

Q And that's because of the split management?

A Yes, yes.

Q So just to check the split management, so if we think of an imaginary microbiologist with Infection Prevention and Control sessions in their job plan and on-call responsibilities, they would be managed by the Infection Prevention and Control team for their Infection Prevention and Control sessions and on call, but for their microbiology sessions, they would be managed by the microbiology directorate?

A Well, not-- no. It wouldn't be the on-call. They're not on call for Infection Control.

Q Right.

A So it would only be then infection control duties that they would report managerially to----

Q So for the sessions they have for Infection Prevention and Control, they're managed by this new system?

A Yes.

Q Everything else, they're managed through the directorate?

A Yes, and so their out-of-hours. Every microbiologist, there's no-- unless there's a major outbreak or something, there's no out-of-hours infection control doctor, unless they happen to be the infection control doctor on call. So, quite often it will be a microbiologist who has no infection control sessions, but all microbiologists have an infection control responsibility.

Q So if you're a ward and, out of hours or, more practically, over a weekend, an issue arises about an ongoing thing that is generated at IMT, for example, there's no on-call Infection Prevention and Control doctor, so you would be going to the on-call microbiologist for advice, who might not have any Infection Prevention and Control sessions themselves, but they will be the person who answers the phone when you want some advice?

A Yes, yes.

Q Would there be an out-of-hours Infection Prevention and Control nurse?

A No. There is an exception to that, though: if there was a major outbreak or a major problem, then, on an ad hoc basis, an infection control doctor and infection control nurses might be brought in over the weekend. If you needed to have meetings or there is a big, big problem – like six wards shut because of Norovirus or something like that – there would be.

The microbiologist couldn't cope with that workload on top of everything else at the weekend, so-- but that-- On

the routine basis, the microbiologist would need to be informed about what was going on and if it was a question of, “Ward A is shut. If we get any more cases, this is what you need to do over the weekend,” it will be relatively straightforward, but there are occasions when the workload was increased and these people would be brought in.

Q I want to just understand this a bit clearer because if we compare it to another-- a clinical function-- If you had a clinical function in the hospital, say haemato-oncology, one of the functions within that, there would be an on-call consultant for that function all the time. Out of hours----

A Yes.

Q -- all the time, and nurses will work shifts in the wards, so there will be a nurse in charge of the ward----

A Mm-hmm.

Q -- and clinical nurse specialists would work shifts. Is that the normal arrangement for a normal treating ward? You'd have----

A Yes.

Q Right.

A Absolutely.

Q So, out of hours, the same pool of people are providing the service, either through shift patterns if they're nurses or on call if they're consultants and registrars. Is that broadly right?

A Yes.

Q Right. So, in the context of Infection Prevention and Control and microbiology, technically, Infection Prevention and Control is an in-hours-only service, unless there's an exception?

A The microbiologist takes on the responsibility for providing the infection control advice. Most of the advice will have been given during the day. There will be a programme set up, the ward will know what they need to do. If there's something that comes in overnight, usually the microbiologist will have the knowledge and the experience to know, "Right, well, that patient needs this. You need to isolate that patient," or-- and then, in the morning, you would then inform the infection control nurses.

So the microbiologist takes on the role, if you like, of an infection control doctor and an infection control nurse out of hours, and only when the workload is a big problem would they actually be coming in. But, if you were stuck, there would be nothing to stop you ringing somebody at home to say, "I've got a problem."

Q Right.

A There wasn't anybody formally on call in those situations.

Q Yes, I need to sort of break this down a bit, as it were, for us as a lay audience. You mentioned a plan. In a

conventional specialism where people are treating patients, the individual patient might well have a plan for their treatment. That will be relatively common in a hospital, and so when the out-of-hour call is made to a consultant – who's a different consultant from the consultant responsible for that patient in the day – they would presumably try and work to the plan. Have I got that broadly right?

A Yes, yes, yes.

Q But the consultant who is taking the call out of hours is in the same team, management team, as the other consultant whose patient it is?

A Yes.

Q They just might be the other-- one of three others or something----

A Yes.

Q -- in that specialism, but do I have it right that, in this environment, under the new system that you're talking about in paragraph 20, the out-of-hours call goes to someone who's not in the same managerial structure as the Infection Prevention and Control nurses and manager and, indeed, the lead ICD as well? They're in a different managerial structure?

A Well, not absolutely. This is where it becomes-- They're in the microbiology structure in which the infection control doctor is part of that managerial structure as a microbiologist. So, from a briefing point of view, from handing over information point of view, it's exactly the same as it is on the wards. They are within that managerial reporting line in their role as a microbiologist.

Q But they're being managed by a different team?

A They're being managed by the laboratory directorate management team.

Q And not by the Infection Prevention and Control manager?

A No.

Q No. Now, that's extremely helpful. We'll come back----

A It is a little bit-- But it's not-- You can't get the impression that they don't know which is-- I think one of the arguments that the microbiologists would have is that they need to be briefed, so we have a daily meeting. So they need to understand what's going on. They need to understand what infection control issues-- They don't need all the details, but they need to understand what issues they are-- are going on so that if they pick up--

It doesn't matter whether it's out of hours or during the day because they might come across something during the day that's an issue for infection control, that they know that they have to deal with it. During the day, you would hand it over to the infection control team, the infection control doctor or the infection control

nurse, and out of hours, you need to be briefed so that you do know what to do out of hours if there is a problem. Most things, you can put a plan in place that will then be reviewed in the morning by the infection control team.

Q Before we leave this topic: this briefing, who delivers the briefing from Infection Prevention and Control?

A Well, there will usually be an infection-- At the consultant meeting in the morning, you'd have your microbiologist. Some of those will have infection control doctor duties.

Q And those ones deliver the briefing?

A Yes.

Q Right, okay. Thank you very much.

A Sorry, on the weekly meetings, so we put in place weekly meetings for the consultants where we would minute all the infection control issues as one particular thing on the agenda because we felt it was important to have that all minuted, and so that would be another way of having a quick summary once a week of 1, 2, 3, 4, 5, 6, whatever it is: these are the infection control issues that we need to address.

Q Thank you. Now, what I'd like to do is understand your understanding of the difference between the role of an infection control doctor and an infection control nurse in the managing of Infection Prevention and Control issues.

A Well, I'm a very firm believer that people should work together as a team, and that was how-- When I started as a microbiology consultant, there were no such things as infection control nurses. As that service developed, we began to, you know, work very closely together as a team, and that was the infection control doctor and the infection control nurse, and that service grew.

There's a lot of overlap. The day-to-day duties of giving advice on infection control as the infection control nurse-- and they do a lot of education, keeping of records. They do surveillance. They are sometimes the first responders on the ward. If there's a phone call, a ward says, "Oh, we think we may have an outbreak" or, "We think we may have a problem," so they're the sort of first responders.

The infection control doctor is a very important link between the microbiology laboratory and the infection control service. So you've got your alerts that go through automatically on the computer and then you've got your unusual things, which we've talked about, that you might want to alert people about.

It's very important for-- infection control nurses are not microbiologists, so they-- there's a lot that they do know and

understand about microbiology, because it's part of their training, but there are certain things that are out of the ordinary, a little bit unusual, and it's very important for the microbiologist to be there to explain the problem: “There is a problem,” “There isn’t a problem.” Explain the differences, the difficult organisms. To bridge-- to interpret, if you like, the microbiology results that you have so that you can introduce that into the equation. But there is quite a lot of-- there is some-- quite a lot of overlap, but the key thing here, for me, is always working together as a team and understanding----

Q Is it fair for us to take away from that, in addition to your belief in the requirement for teamwork, that one of the things the microbiologist is bringing to the process is an understanding of what is unusual or what is not known about regularly, what is different?

A Yes, I think so.

Q Right.

A Whether that's picking it up or explaining something. I mean, there are occasions where an infection control nurse may think there's a problem, but then, when actually you sit down and go through it, there isn't----

Q I think we're going to come to one of those later on in your statement.

A So, you know, "There isn't a problem," or-- I mean, they're very good and they're very well trained at doing the routine stuff and things that they understand.

Q Why don't we go to that example you've given in your statement, which is a paragraph 148, which at an approximate guess will be somewhere like page 50, if we take a leap? Yes, so this is the paragraph that begins, "About this time, I was covering a weekend on call." Now, this is quite a complicated story, so I'm going to ask you first to put it into context. When is this?

A I can't remember exactly. I mean, I lost all my records when I retired because I wasn't-- didn't have access----

Q So what were you doing? You were on weekend on-call, so----

A So I was working two days a week and I was doing their on-call, so once Dr Peters was appointed as a microbiologist infection control doctor to the Board – I think that was in '14 – I-- Complicated story, but I did a job share with her, but she wanted to work part-time, so she did three days and took on my on-call, and I just did two days a week with no on-call.

Q So this would have been----?

A So this incident must have been around 2018. I think the end of-- Sorry, 2017. So-- but occasionally, when we were really, really short-staffed, I

would do a weekend on call.

Q Right.

A And, as it happened, I was on call this weekend because there was nobody else to do it.

Q Right. So, on a Friday, you describe in the third line, you got a phone call, just at the end of the working day, advising you there'd been a total cessation of orthopaedic services across the Health Board area.

A Yes.

Q Was that an unusual thing?

A Oh, absolutely. Yes.

Q Why do you think-- and you explained it in the detail, but can explain it for us again? I want to ask you some questions. Why did it occur on this occasion? What had happened?

A Well, I was told-- I think it was-- I was told that there was an outbreak of resistant Pseudomonas in orthopaedics, and the orthopaedic services had been-- the wards had been shut, and just to be aware of that for the weekend.

Q That seems quite a big thing to be “just aware of” for the weekend.

A Yes, well, this was one of the occasions where the team, if you like, were coming in on Saturday to the infection control doctor, senior managers, infection control nurses. Everybody was in on Saturday to manage that. I just needed to be aware of it. I was not-- Well, I would say I needed to know in case something came up, and I would have contacted them, but----

Q But they were planning to be on the next day anyway?

A They were-- Everybody was going to be, including the chief executive.

Q If we go to the next page, and you describe in the second page that the chief executive came in and that your registrar was contacted, Professor Jones, to collate some information. What did you do on the Saturday when all this is going on, and what did you find out?

A Well, on Saturday morning, obviously you're down from two from-- to two from about seven people, so you've got the routine service to run, which is why people were coming in. I'd had a phone call from one of the directors – I think it was one of the directors of surgery, a manager, not a clinician – to say, "What is going on?" and I said, "I'm sorry, I don't know the details, but I will find out the details and I will get back to you."

In the meantime, Professor Jones contacted my registrar and asked him to print off all the results for the patients that were involved in this outbreak. So he went off and did that. So the two of us are sitting in a room, I'm carrying on with the routine work, and by the time my

registrar had printed off all the results-- and I said, "Look, just lay everything out." I then went and looked at all the results, and it took me maybe 45 seconds, a minute. I looked at it and said, "This is not an outbreak."

Q And why was it not an outbreak?

A Because they weren't the same organism, so there were one, two, three, four, five different organisms. They were just not the same.

Q They're all Pseudomonas, but they're just different species?

A Yes, different species, different sensitivity patterns. I mean, one way of looking at an organism is to see, "Has this one got the same antibiotic sensitivity pattern as the other one?" and if they're resistant, that's a clue that they're the same. The reason they'd been shut down is that they were----

Q The reason the services had been shut down?

A The reason was because they were thought to have an outbreak of a resistant Pseudomonas.

Q Which would be quite a serious thing?

A Yes, so wards had been shut, patients weren't allowed to go home, which was ridiculous. Some of the doctors were saying they were too frightened to go on to the wards, which, again, was ridiculous. They cancelled all elective surgery for the following week.

I mean, it was important enough a decision that-- I mean, Jane Grant, Chief Executive was coming in because they were worried about shutting the whole of the orthopaedic services for the West of Scotland down. So, I got the results printed up and, when Professor Jones arrived, I showed him the results. I said, "I don't think this is an outbreak," and he said, "No, you're right," and he went off and the services reopened again in the afternoon.

Q But what lesson do you take from this about the structure of an IPC team?

A Well, my feeling was-- and I expressed my concern. I said we really need to understand what happened that that decision was made to shut down the services when there wasn't a need to shut down all those services, and there must have been a huge cost to the whole organisation and patients as well, you know, who'd have their operations cancelled and everything else. We need to understand.

So, I don't know what happened and I never got any feedback about what they found. I assume they investigated it, but I think it's an example where maybe there wasn't an input from a-- I don't know, whether a microbiologist wasn't asked, if

a microbiologist has been asked to look at those results.

Q Can you imagine a situation where a microbiologist wouldn't have said these aren't related? There's too many negatives in that question; I'll re-ask it.

A Okay.

Q Can you imagine a situation where a microbiologist would not have realised these cases were not related?

A I would say that you could show those results to a non-microbiologist and they could look at them and say they were not the same, in my view, but, no, I mean, I think any microbiologist should have realised that those results were-- it was not an outbreak.

Q Okay. If we can take this off the screen, thank you. What I wanted just to do is ask you about something that appears later in one of the reports following your whistleblow, which is the concept of Infection Prevention and Control being a nurse-led service.

A Which whistleblow would that be?

Q It's the response to-- it's the report of the investigation into Stage 2. If it's not something that you remember, we'll come back to it later.

THE CHAIR: Mr Mackintosh, can I just interrupt you? We have the benefit of Dr Redding's paragraph 149, but I just-- just that, maybe a repetition of your question, what is the lesson that----

Q Yes, okay.

THE CHAIR: -- Dr Redding learned? Because I think what I take from that is that a microbiologist should have been asked, or it would have been a better outcome if a microbiologist had been consulted earlier, but I don't think I have got the----

Q No, I feel like----

THE CHAIR: -- connection between the management structure and the failure to involve the microbiologist at the weekend. It may be my fault.

Q (To the witness) Given that you haven't had a feedback from your observation at the time that this should be investigated, are you able to draw any connection between that event, as an example, and your criticisms of the management structure that was brought in after Vale of Leven, when the new Infection Prevention and Control team was created?

A I don't think you can completely blame the new structure. Even under the old structure, a decision like that, which involved closing of a regional service of orthopaedics, you should have been sure that the most senior infection control doctor and the most senior infection control nurse were involved in making that decision.

Q And you don't know whether they weren't?

A I don't know, but I-- you know, I think it was-- For me, anyway, I mean, I know I've had quite a lot of experience of infection control that, for me, it was quite simple that it was not an outbreak. So, I don't know whether a microbiologist didn't actually sit down and look at the results----

Q Or they weren't asked. You don't know?

A Or they weren't asked. I don't know because you never-- I didn't get any feedback on that occasion. So, I don't think the managerial structure as such is absolutely at fault in this situation because common sense would tell you that, for this big a decision, the most senior infection control doctor and a senior experienced infection control nurse should have sat down and understood what was going on before that decision was made.

Q So are you just using it as a cautionary tale for the importance of including microbiologists and infection control doctors?

A And also that my feeling is there's a lot of the infection control is going towards more autonomous working, and I think this may be an example of where decisions are being made without the input from infection control doctors that is causing the problems here.

Q What do you mean by autonomous working?

A They like to make decisions without involving the infection control doctor.

Q So who's “they” in this context?

A The infection control nurses, I think, are working more autonomously, dealing-- Because there's a lot of decisions, I think, going back to the team working. There are lots of decisions that can be made, but there's certain times when you need to have the input and the discussion with microbiologists and infection control nurses----

Q So you would discourage the idea that infection control nurses should be making decisions by themselves?

A On this sort of thing, yes.

Q Yes, because there is a general move in medicine to empower senior nurses with experience?

A Yes.

Q And we've seen in the last 20 years the growth of the nurse consultant and the clinical nurse specialist.

A Yes.

Q So why can't such a thing happen in Infection Prevention and Control? What's wrong with the idea, operating just as it does in many other specialisms across the hospital, of having

senior nurses with many years' experience, perhaps with master's degrees and things, making decisions quite a lot of the time without doctors involved?

A There are lots of decisions that they're perfectly capable of doing, but this is where the interpretation of the microbiology results like that should not be left to-- That isn't their expertise, understanding complex microbiology results.

Q I'll come back to the nurse-led service quote when we pick up your Stage 2 whistleblow because we will get to that document later.

A Right, okay.

Q It's probably easiest. What I want to do now is to move on to your role in the planning for the new hospital. This is a long time ago, and I won't go to your statement. What I'll do is I'll take you to a document and see if you can connect it, if you recognise it, because they gave you a document list in advance.

A Yes.

Q So hopefully you'll have seen these before. Can I ask you to look at bundle 27, volume 4, document 2, page 11? So I just want to check that this is the paper that you produced for the independent review on the proximity of the Shield Hall sewage treatment works to the hospital site, and you did this, presumably, in about 2019?

A Yes, April 2019. Yes.

Q Right, okay. Now, within the paper – I won't go to the page because we can read it – you raise the issue about there being concerns about the Shield Hall sewage works being known to have overflowing sewers, and I wanted just to discuss-- Well, in fact, let's go to the next page. I'll make sure I'm on the right page. (After a pause) This is on page 16. You've pulled a reference to a 2002 paper by the Health Board on the impact of the proximity of the sewage works and then-- and that's in the first half of the bold paragraph, and then below that, you've reported:

> "There are reports of 29 sewage works plants across Scotland rated as poor because of sewers overflowing, leaking and breaching environmental limits..."

And then you've mentioned that Glasgow is clearly on this list. Can you tell us what this list is talking about? Are these reports from 2002 or a long time ago or more recently? Can you help us?

A I can't remember now and when I went back look at it, it had disappeared from the website. I was given this link by a friend who's-- Because lots of people, I think, have brought up the risk about the sewage

works, and I don't know whether that's significant or not. Again, I think that would need to be an expert that commented on that, but this was just a report that mentioned that there were-- that a lot of the water companies across Scotland were in breach of the regulations.

Q It's just, it would make a difference if it was breaches that were around 2002, which could have been known to the site selectors, or more recently, which they wouldn't have known, and I wondered if you would help us.

A I can't remember that because I did go back to look at it to refresh my memory, so this was a report that was written in 2002. I think that's the----

Q That's the site selection report that was done at the time by the Health Board to choose the site, so that's-- we know that's a decision point. Are you saying you can't tell us whether these 29 reported plants was contemporary----

A I can't remember what that-- what date that refers to now. I did go back to look at it again, but it-- I did look at it at the time and I can't remember exactly and when I went back to look at it again, it had disappeared. I couldn't find it, but that's probably me because I'm not very clever at finding things like that, but----

Q Okay. Well, if we take that off the screen. I want to ask you a couple of questions about your memory. You obviously were involved in providing microbiology services to the Southern General site in your previous-- before the merger of Greater Glasgow Health Board. That would have been part of your responsibility.

A Well, I worked at the Victoria Infirmary for many years before moving to the Southern General Site.

Q Yes, so when you moved to the Southern General, when would that have been? Approximately.

A It was about 2008, wasn't it?

Q Right.

A I think it's in my statement. I think it was about 2008.

Q Yes. So, in the period from 2008, do you have any recollection of there being any issue of suspected environmental infections in that hospital connected, in the minds of the people who are investigating them, to the Sewage Hall (sic) treatment works?

A No. My colleague, who worked at the Victoria with me, a consultant colleague, he was on the water committee and the one thing that there was a constant problem with-- Because we did the whole site even though we were based at the Victoria, so he was on the water committee for both

the Victoria and the Southern.

The problems with Legionella were well recognised and he was the one who said at the time that we need to make sure that there is a clean water supply into the new hospital because of the contaminate. I can't-- I haven't got any more detail on that. Because of the contaminate-- the concerns about the water supply to the old Southern General.

Q Right, so you remember there was a concern about the supply into the site?

A Yes.

Q And, if the fear was Legionella, that would have been the possibility it would grow within the system on the site?

A Yes.

Q Were you aware of any concerns about infections linked, in the minds of those who are working there, to sewage treatment works?

A No, there didn't appear to be any concerns along those lines. There were no-- We had fewer services there on the Southern General site at the time. I mean, there were-- we didn't have the kids. Once the new hospital was open so they-- you know, the Western Infirmary shut and so the whole dynamic changed.

Q So it's a different type of patient?

A Yes. I mean, there was still haemato-oncology patients, adults, but no bone marrow transplant people.

Q So we had evidence yesterday. So, when you're at the Southern General between 2008 and the new site opening, there would have been some haemato-oncology but they would have been adults and they wouldn't have been bone marrow transplant?

A I think that's correct, yes.

Q Yes. Was there any issue with smell at the Southern General site?

A Oh, yes.

Q In what way was that a problem?

A Well, periodically, the smell could be absolutely overpowering from the sewage-- from the sewage plant.

Q You've mentioned various involvements you had in the procurement of the new hospital, and I'm going to show you some documents in a moment, but before I do that, at any point before the hospital opened, were you involved in discussions about whether the hospital should have natural, forced or mixed ventilation?

A I had-- I was involved at the very, very beginning of the whole project because the Health Board realised that that was an important part to have infection control involved, and I met with a ventilation company – I don't know if it's the ventilation company that then went on to put the system in place – where they

arrived and they said, "We could not understand why everybody talked about the smell until we open our car doors and realised what people were talking about."

So, I was involved in that meeting with Estates and other people from GGC, and, at that point, there was a lot of discussion about whether it was a sealed building, whether we could have fresh air, you know, windows that opened, whether it had to be a sealed environment, we had to meet EU regulations, and that probably is the only discussion that we had around that.

I wasn't-- It was a very preliminary meeting and they went away to consider options and then, at that point, I gave up as being infection control doctor after that.

Q So you gave up in 2008?

A Yes.

Q So it's before 2008?

A Yes.

Q Well, that means I don't have to read you a long list of companies that were involved after 2008 because----

A Good.

Q -- it can't have been them.

A Yes.

Q There is, however, a document that we would like to show you, actually, which is bundle 14, volume 1, page 75, which appears to be a minute of a meeting. Now, it's not a meeting you're at, but you're mentioned in it. So this is a meeting that, according to the minute, anyway, took place on 18 May 2009 at the Hillington project office. It discusses the new South Glasgow adult hospital and, in the section on isolation rooms, it informs us that the group reviewed the paper produced by Doctors Redding and Hood and Annette Rankin.

We can't find the paper. Have you any recollection of what your paper might have been covering, other than what's set out as their ultimate decisions at the meeting?

A Well, it must have been a document that was produced before 2008. My recollection is that, right at the very beginning of the planning, we'd had discussions that were needed to involve everybody – the clinicians, Estates, Infection Control – and have plans for each area, each ward, because we'd learnt previous mistakes that had been made with building projects like the New Victoria.

And so we had decided that what we needed to produce was a document that looked at the spec for a domestic services room, a standard room, and, you know, different kinds of isolation room. So very, very broad, broad discussions, and then each ward would then have to decide with the clinicians what type of patient was going to be cared for on that

particular ward.

So ITU, how many positive pressure rooms and how many negative pressure rooms did we need and that sort of thing. But we never got into that absolute final decisions on that, but the decision, you know, that-- The plan had been that, once you made the decision, you could then go and say, "Well, that's a negative pressure room," for example, “This is the spec that we need for that negative pressure room or positive pressure.”

That was all laid out for every single negative pressure room across the whole building, positive pressure room, standard room, treatment room, every-- All the treatment rooms were the same, all the DSRs were the same, everything was the same throughout the hospital once the decision had been made, but you needed to have input to decide which type of room for which particular area. Does that make sense?

Q It makes sense. Is it on the assumption that, effectively, you're going to define-- set these definitions out and then the contractor's going to build that specification?

A First of all, you need to make the decision as to what rooms, and then-- I mean, I didn't get to the stage where the-- I would have thought that you would then have sat down with the contractor and say, "Right, let's go over the spec for each type of room" so that everybody had a clear understanding what the specification would be, and I would have thought Infection Control should have been involved in that as a double-check.

Q But you had some involvement at a 2008 stage, as you just described?

A I think it was before 2008 that we just had this very-- You know, it was very, very preliminary because there were all sorts of challenges, not just in relation to Infection Control but also in relation to what the regulations would allow you to do, and I don't-- the EU regulations at the time, because I remember that, thinking, "Oh, that couldn't be too expensive." There were all sorts of issues, but I never was involved after that.

Q Okay, well, I'm not going to go through this minute----

A So that----

Q -- because you weren't at the meeting. What I want to do is to ask you about another document, which-- Well, before I show you next document, what do you think your level of expertise is in respect of what the ventilation requirements are for particular rooms and wards in a hospital in terms of the SHTMs?

A Well, I would have gone to the SHTM and I might have-- I also believe

that probably Glasgow at the time, at the very beginning, did not have the absolute expertise. John Hood was probably the most experienced person at the time in ventilation, but I'm not sure if he had the expertise for such a big project, and I would always have said you need to get an external expert in to be sure----

Q Because I'm wondering whether----

A -- that things are right.

Q In your-- the rest of the material we're going to go through in a moment, at various points you express opinions about what the air change rate should be or what the positive pressure differential should be or should there be a HEPA filter in various wards, and it seems important to you, and I'm wondering how you reach those conclusions. Do you reach them because of some expertise in ventilation or from another direction? How do you get to that?

A From the guidelines that are written.

Q So you're simply looking at the guidelines?

A Yes, absolutely.

Q And following the guidelines?

A Yes, I've-- You know, that's my-- My role in bringing lots of these things up was I was there as a conduit for raising the concerns of other people, for other people a lot of the time because they hadn't had the courage to do that, so-- but I would still always go back to the guidelines, say, "So-and-so, why would deviate from the guidelines?"

Q So you're not able to tell us whether the guidelines are a good idea, you're just-- I hesitate to use the word "slavishly," but you're following the guidelines?

A That would be my premise always, to follow the guidelines, yes.

Q Well, I was going to show you-- Sorry, my Lord.

THE CHAIR: Perhaps just to state the obvious. So, looking at matters in 2008/2009, you are aware of Scottish Health Technical Memoranda?

A Yes. Yes.

THE CHAIR: And, as far as ventilation is concerned at least, will have actually looked at that document?

A Yes, probably at the time, but the-- we weren't down into that detail of discussion in-- when I was involved with the ventilation before 2008. We were just getting a general feel for what kind of-- Whether we get-- I mean, the first decision that was going to be made was whether there should be fresh air or no fresh air, and that decision hadn't even been made, and so that would affect any other decisions that were made around the type of ventilation for that building.

Does that make sense?

THE CHAIR: It does, indeed, 2008, but what I'm taking from your answers-- I mean, clearly your expertise is microbiology, but nevertheless you're aware that there was guidance?

A Absolutely.

THE CHAIR: It was contained in a series of Scottish Health Technical Memoranda, and there was one document, which is now at SHTM 03-01, in relation to ventilation. So you were aware that there was guidance?

A Yes.

THE CHAIR: But you're saying you hadn't necessarily looked at the document?

A I can't remember.

THE CHAIR: Right, okay.

A I must-- I would have thought I had got a feeling for it, but I cannot remember, going back that many years. I can't remember whether I actually read it from cover to cover, but I was aware. I'm sure I-- I would have-- I must have been aware of it, yes, because I would have gone through and seen, "Well, what are the different-- I need to understand about positive pressure and negative pressure. I need to have that basic understanding."

But I wouldn't call myself an expert having read that document, but I clearly understood the differences that we had to-- the decisions that we had to make around the differences of different kinds of room. Does that make sense?

THE CHAIR: Yes, and that suggests to me that you must have had a look at the documents?

A Yes, I think I must have done. I can't remember sitting down and reading it, but I must have done.

MR MACKINTOSH: Well, what I think I'll do is I'll show you a letter, an email, which is in bundle 12, document 104, page 813. Now, this is an email which we've been looking at a lot, from Mr Seaborne as part of the Project Team. Did you have an opportunity to read this?

A Yes.

Q And it's not addressed to you, it's addressed to a series of people, some of whom work for the contractors and some of whom were part of the Project Team, and the heading is, "Queen Elizabeth University Hospital SBAR rooms air changes," and it's in 23 June 2016, so it's nearly a year and a half after the hospital's been handed over. The bit that seems important to ask you about is at the bottom of the next page-- top of the next page, which is:

> "We had a discussion during design processes about natural ventilation which is acceptable in the guidelines. We asked Infection Control for their view and approval

through Annette and they advised against it."

To be fair, Annette doesn't remember this:

"I think it's correct in saying the Infection Control person who gave the advice was Penelope Redding. This is typical of the normal approval process we adhere to at all times."

Now, obviously, you can only speak to the period when you were in Infection Prevention and Control, so that's early in the project, 2008. So do you remember being asked for your opinion about whether it possible to have natural ventilation?

A Well, I think the only memory I have had of the discussion is, again, with the ventilation company.

Q This is people who arrived in their car and they smelt the smell?

A Yes. I mean, that-- You know, and the discussion was-- I mean, one of the questions, for example, was, you know, "If you are a patient who is suffering, who is having chemotherapy and you're feeling really, really sick, do you really want to have that smell on top of everything else? You know, will that make you feel even worse? Is it fair on the patient?"

So there's all that sort of discussion, but there was never a final decision made at that meeting whether there could or there could not be natural ventilation.

Q But you would accept that you might have advised that there's some downsides to natural ventilation?

A Yes.

Q Right.

A The smell, I think, yes.

Q The previous part of the letter, if we go back a page, goes into some detail about what happened after you stopped being an Infection Prevention and Control doctor in 2009. Am I right in thinking that you had no involvement in later decisions?

A I had no involvement whatsoever after 2008.

Q Okay, so we can take that off the screen. If, for example, there is a paper that sets out the logic for the air change rate from 2009, you wouldn't have been shown that?

A No.

Q No. Before we stop for a morning break, I want to just, rather cruelly, jump forward to the day-- summer the hospital opened and try and understand your reaction to what you found when you went into particular wards, if, indeed, you went into wards. So would your microbiology duties actually take you onto wards?

A The only wards I went to at

Queen Elizabeth were the Intensive Care Unit and High Dependency Units. Those are the only ones where I had involvement.

Q You wouldn't have been to any other wards?

A No.

Q No. In the High Dependency/Intensive Care Units, did you form any view about the ventilation in the unit when you first went there?

A Well, I only became aware of some of the problems with the isolation rooms when Dr Peters became concerned and I went and I had a look at the issues myself.

Q So she would have drawn them to your attention?

A Yes.

Q And you'd have gone and looked at the ceilings and the----

A Yes, I just-- I mean, she was dealing with it; she was the Infection Control doctor. I was looking out of interest. I mean, I was only working two days a week and, you know, I did come across Infection Control problems and issues, but, in those terms, most of my involvement has been making sure that everything was reported upwards.

Q Well, we won't go into that in any more detail. One last question before we take a break is-- we've subsequently learned – I think it's now accepted – that the air change rate in most of the hospital, in the general wards, is two and a half to three air changes an hour, and there seems to be a debate about whether it should be six. I just wondered if, when you were in the hospital before Dr Peters brought this subject to your attention, you had any awareness of the lower air change rate in the wards you were in, including High Dependency and ITU.

A Well, before Dr Peters ever started, I was made aware, and I think it was possibly Dr Inkster, that the air changes in the hospital were three. I thought they were three and not six.

Q But had you noticed anything about the air yourself?

A No.

Q No? Right, okay.

A So it was just being-- what was being reported to me: "We have found such-and-such," yes.

Q Such-and-such, okay. What I'm proposing to do now, my Lord, is to take a short break here for the morning break and then pick up the next section, if that's appropriate.

THE CHAIR: Right, we can do that. Dr Redding, as I said, we usually take a break about this time. Could I ask you to be back for ten to twelve?

A Yes.

THE CHAIR: Thank you.

(Short break)

THE CHAIR: Mr Mackintosh.

MR MACKINTOSH: Thank you. So there were two questions that occurred to me after the break, about things you'd talked about early on. At the very beginning, when I asked you about the role of a microbiologist, you mentioned there were four key aspects to the role of microbiologist. To my memory, you only mentioned two or three, the first being the lab work and the second being advising clinicians. What were the other two? Because you did say there were four key aspects, and then----

A Did I? Right----

Q Are there four key aspects to working with a microbiologist?

A Well, I would say there are probably more than four, but the main one-- I suppose, in broad terms, then, you've probably got the work in the lab and ensuring that the lab does the right investigations, and the interpretation of the results.

So, quite often, one of the biomedical scientists will come to you and say, “This and this and this is what we've got,” and we then have to make a decision as to what is reported. So we have to make a decision of what is relevant to go into a final report, and also what, for example, if necessary, what antibiotic sensitivities you will report, if required.

Then you've got the interaction, as I sort of touched upon, with the clinicians. So you obviously do not phone out every result, but there are certain things that you would have to make urgent contact because urgent----

Q So you're doing the lab work, you're validating and checking up on your team, effectively, and----

A And reporting results, yes.

Q Working out what to report, speaking with the clinicians. Anything else that stands out for you as a key role?

A And giving-- Oh, and giving antibiotic advice, so-- and also on treatment and maybe modification of treatment if the treatment isn't working, and the management of patients and whether, you know, whether it requires an infection control input or not.

Q All right, okay. Are those what you would consider the main ones, anyway?

A I think so, yes, yes.

Q Okay. The other thing is just thinking about your evidence about the role of infection prevention control doctors, and I was thinking again about how microbiology is clearly a specialism

with a career structure and with a training programme. Is Infection Prevention and Control, from a doctor's point of view, a role that, in effect, any microbiologist can fill, or a specialism which requires particular training over and above the normal microbiology training programme?

A Well, when I started, there was no such recognised role as an infection control doctor, so I very much learnt on the hoof, and at the beginning of my consultant career, there were no infection control nurses, so I did-- I just provided the infection control service, if you like, to the Victoria Infirmary at the time, and its allied hospitals.

As the years went on and the infection control service developed, there then became-- there then were-- there was some formal training. You could go to conferences and things like that, so I learnt on the hoof.

Q But the people who were younger, how would they learn now?

A There are courses and things that they can go on. I can't tell you because I've never been on them, but that-- You know, I did most of my stuff through conferences and that's-- but there are courses that they can go on. There isn't a formal training as such, I don't think, that----

Q So, at the time you left, a new consultant microbiologist could, if they wished, do infection prevention control sessions as an IPC doctor?

A Yes, yes.

Q And there was no formal additional structure?

A No.

Q No?

A No, no formal training.

Q Okay, and I'd like to move onto the topic of HAI-SCRIBE.

THE CHAIR: Just, again, for my note, when you left, is the way you put it now-- Dr Redding has explained that she hasn't had an Infection Prevention and Control role since 2009, but she retired in 2018. Is it 2009 or 2018?

MR MACKINTOSH: (To the witness) Yes, so when you stopped being a consultant microbiologist was when I was asking about.

A Yes, in 2018. I stopped being an infection control doctor in 2008.

Q So when you stop being a consultant microbiologist, would the new, young consultant microbiologist coming on at that point have required, so far as you know, any particular specialist training to carry out IPC work?

A No. Usually what would happen is that somebody was usually offered the opportunity to take on-- So you have your number of job sessions, if you like, as a consultant microbiologist, and you might be asked, "Would you like

to do some infection control?" And instead of doing clinical microbiology, two of those sessions or three of those sessions might be for Infection Control, and then you usually started learning on the job and you're learning from more experienced ones, and you might then be going on courses. Colindale ran-- well, it's not Colindale anymore, but you can go on a course for an infection control doctor, but you don't normally have any formal training before you take on those infection control doctor sessions.

Q I see, and then a session is a half-day, effectively, from the point----

A Yes, yes.

Q Right. Now, what I want to do is to turn on to HAI-SCRIBE. Is this something you were familiar with when you were working as a microbiologist, or would it only have been around when you were-- from your point of view, when you were an infection prevention control doctor?

A I was not really involved in doing HAI-SCRIBES on the whole, yes. Before they developed.

Q What I want to do now is to turn to the-- Well, in your statement, you talk about the role of the working culture and the effect on the procurement of the hospital, or the poor working culture in the hospital, and this is in paragraph 21 of your statement. I don't need to put it on the screen, but what I want to do is to ask you what role the working culture within what was then the Southern General University Trust, becoming Greater Glasgow, played in your decision to resign as clinical director from the laboratories directorate in 2011.

A The culture-- the reason I resigned in 2011 was not in relation to the culture, okay?

Q Right, okay.

A I had resigned as clinical director when I was at the Victoria Infirmary partly because of the culture and partly because there was a refusal-- the Victoria and the Southern were merging, and partly because of the refusal to accurately record concerns and things that were being raised.

At the time, I felt-- and I wrote a statement out and read it word for word and then handed it to the minute-taker so there could be no confusion as to what I'd said, and so that was the reason. So that was part of the culture, I suppose, because you were not allowed to express a difference of opinion, and it would not be recorded. No, 2011, I left because I was thinking of retiring and----

Q So it was different reasons?

A Yes. It was nothing to do with the culture. The culture was still a problem in the background, but that was not the reason for me retiring.

Q So the criticisms you make of the working culture in what is now Greater Glasgow and Clyde Health Board in the years after 2008 in your statement, are they the same sort of problems that you've just been talking about, or is it a different set of issues around-- What's the primary problem in the culture that you're concerned about?

A Well, I suppose it depends what you include in the culture. I mean, there's very much a culture of not putting things in writing, not putting things in emails, not recording things in minutes. There is an atmosphere of intimidation and bullying and people being afraid to speak up, which is why I, in the end, took the position that I took.

Because I was coming up for retirement, I really didn't need any aggravation. I was hoping to sort of slowly unwind on my two days a week, but I-- People would come to me because also I've had the management experience, so I was able to say to them, "Look, this is what you must do. You must put things in writing, you must record your concerns." I made sure that everything was minuted in in the consultant meetings. “You need to make sure that you go through the proper management reporting-- you know, reporting lines, all your concerns,” and then I started, perhaps, speaking to the senior managers----

Q Can we do that bit separately?

A Right, okay.

Q Can we come back to that? Because there's a lot in what you've just said. So, when it comes to the first thing you said, you mentioned your first concern was concerns not being minuted.

A Yes.

Q You've said the same thing about that being related to your decision to resign when you were at the Royal Victoria.

A Well, the Victoria Infirmary, yes.

Q The Victoria Infirmary. Is that the same sort of problem that you see as a continuum or separate?

A No, no, it's the same sort of problem.

Q And at the time you described how your approach to that was to write things down and read them out and hand them to minute-takers----

A I did that on one occasion, yes.

Q Yes, and you've just described how that's become your advice to----

A To put things in writing.

Q -- other people.

A Yes.

Q What reasons can you see-- Well, firstly, how would the discouragement to put things in writing-- what form would that take?

A "Do not put anything-- Do not keep sending emails. Do not take-- put that. Do not minute this meeting."

Q Would a reason ever be given for that instruction?

A "We don't want a record of it," I think, was probably said on one occasion, but on the whole, they didn't give a reason. They just said, "Do not do it."

Q Why would a record not be wanted?

A Well, my view was, and what I would say to people, that if you have not put it-- if you have not recorded something and you've not put it in writing, if anything arises in the future, people will deny that they have been told. So if you have a concern, you need to put it in writing so that it's on record that you have raised that concern. That was my advice.

Q That's your core advice?

A Mm-hmm.

Q Yes.

A It's the core advice that I've been-- I mean, I took advice from the GMC and the BMA and things as well about you need to put things in writing and record it.

Q And so why do you understand that the requirement to put things in writing is connected to the professional duties of a doctor, then, at the GMC? What's the connection in your mind?

A Well, in my mind, if you have a concern, you have a responsibility to patients to ensure that everything is safe and the delivery of a service-- and you take an oath when you qualify that says that if you have any concerns that harm could come to patients, it is your duty to report it. That, I think, is what I feel is your duty to do, and the only way to do that is to put it in in writing because they will be the first people that turn around and say, "You never told us."

Q Well, we'll come to when you actually did this in the most recent example in a moment, but you then mentioned that you felt there was a culture of bullying and intimidation.

A Mm-hmm.

Q What sort of form would this take, from your perspective?

A In personal bullying or----?

Q Either. What----

A You might be shouted at, you might-- people would criticize you, you might-- All sorts of formats. Shouting is probably one of the things-- people were terrified of speaking up.

Q And when you say "speaking up," is that this drawing-- writing, putting things in emails and writing them down, and drawing attention to things?

A They were-- Yes. They were, on the whole-- I would say this is-- that's what you need to do. I can't say whether they did it every single time, but that

would be always my advice. If they come to me and they say, "We're worried about so-and-so, so-and-so, da, da, da, da, da, and nobody's listening, nobody's doing anything," I said, "You need to put it in writing and send it up the management lines. You have to make sure, and if you can't-- At the first level, if they don't listen, you have to try and move it up to the next level." And that was always my advice, that it was in writing.

Q I'm keen to keep this at generalities rather than doing too much of individual aims at this point, unless it's essential, but if you're thinking-- By the time you retired, you were probably the longest-serving microbiologist in the Health Board. So I take it, therefore, that some of the people who you have mentioned in your statement as doing things you don't approve of, as it were, in this context would have been younger than you and newer to practice. Is that a fair observation?

A Not always, but----

Q Some of them?

A -- yes, most of them. Yes, some. I mean, there were-- Yes. It was a culture of bullying within the organisation. Some were older.

Q So did you see this as learned behaviour, effectively?

A Well, it was a culture-- If you just forget about microbiology, there was a culture of that within the organisation. There's absolutely no-- right from the top, right the way down.

Q And you're sitting here in a public inquiry saying this under a measure of protection because this is a public inquiry and you can say things. Why should we accept that this is something that you have seen? Apart from your own experience, which we'll come to a moment, what's your evidence for that?

A Well, one of the things I-- Lots of people can speak to it, I think. That's one thing. There are lots of people who speak to it, and also the fact that I ended up being involved because people were afraid to speak up, so that we, in the end, the whistleblowers, were very much lone voices and we were very much criticized for what we did. People forget that what we were doing most of-- a lot of the time was not expressing just our own views but the views of a number of our very senior experienced colleagues.

Q Who weren't speaking up?

A Who weren't speaking up, and one of the things that we learnt very early in this whole process was that we would not go and-- If I raised concerns, I would say, "Look, so-and-so and so-and-so have-- are raising these concerns and they're worried that they're not being listened to." What would then happen is

that person would be challenged for me saying, "Oh, you know, Penelope says, 'Blah blah blah,'" and they'd go, "Oh, no, no, no, no, I never did."

Q So they would speak to Penelope and Penelope would say, "There's no issue"?

A Well, no, sorry. I'm Penelope.

Q I thought you were using their name for some----

A No, no, no, I'm not using their names. So they would go and they would-- one of the managers or, you know, senior people would go and challenge them, "I hear you said so-and-so, so-and-so," and they would then deny it.

So, in the end, the whistleblowers were very careful about not mentioning people's names because that only increased the stress on them because they were then subject to bullying, and so we only put forward information for which we had the evidence to support what we were saying.

We wouldn't say, “So-and-so said this” or, “So-and-so has said that” because we felt, from our credibility point of view, that we wanted to be sure that what we said was supported by evidence and not people saying, "Oh, well, you said that, but they've denied it." You know, "Your colleague denied that they ever said that," and that sort of reduced

the credibility, if you like, of what we were saying.

Q Well, could I ask you to go to page 87 of the statement bundle, paragraph 75? You're discussing at this point – the paragraph at the bottom of the page – some discussion that-- you decided to contact Grant Archibald and David Stewart after some concerns. This is late 2014, early 2015, you say. How sure are you about that date?

A I'm pretty sure it was just before Dr Peters started because Dr Peters-- I remember saying to them at that meeting, "You're very lucky to have Dr Peters, who is very experienced as a consultant and as an infection control doctor."

At the time one of the concerns that I was raising with him at the time was their lack of experienced infection control doctors, which I said was a risk to patient safety because there was a gap. You know, people with not much training at the time. I said, "You're very, very lucky," so I'm pretty sure it was around the time that Dr Peters was appointed, and I think it was just before or maybe just after, but it was very much around that time. I'm pretty sure about that.

Q Because, in the next few pages, one of the themes about these communications you describe is Mucor being an issue.

A Yes.

Q Now, I have various documents to show you that involve communications with Grant Archibald and David Stewart, but they don't mention Mucor, and therefore I'm assuming the ones I have are from later, when that wouldn't have been on the agenda at all, because there's nothing mentioned in the later documents. Did you see any sort of minutes or emails from these meetings, the ones you're describing on this page and the next page, that recorded what you'd said?

A What I would have done after-- The meetings that you-- that I had with Grant Archibald and David Stewart were not minuted, so what I would always do after-- because they were, you might say, informal. I mean, they saw me because they were-- I'd been a senior manager and they had worked with me before. I'd known Dave Stewart and Grant Archibald for many years. What I would do after the meeting is summarise what I had said in an email, just to confirm, so there was something down in writing.

Now, what I don't know-- I have not got access to any of my emails from that time, since once I retired I lost all my access. I don't know. I mean, some of these documents that I've seen have been provided as-- I don't remember writing some of them, but I would have expected I would have done, but I can't guarantee. There may be another email out there.

Q What I can do is I'll go on to the oldest one I can find.

A Sorry, can I just comment that both of them no longer work for the organisation, so it quite possible that, if I sent the email to Dave Stewart and Grant Archibald, it is no longer available because somebody else hasn't been copied into it, maybe. I don't know. I'm just saying.

Q Right. I want to go to a meeting that we do have some record of, which is in bundle 14, volume 1, page 463, and it's the beginning of a thread. This email appears to-- well, it's September 2015 and it's from you.

A Yes.

Q And it's an email summarising a meeting you had on the Monday. As you've just said, you sent an email summarising the meeting, and this is one of them, it seems. This one doesn't mention Mucor, so I'm assuming it's a later----

A Yes. This is probably after that.

Q -- communication. Is that right?

A Yes.

Q Now, what I wanted just to see is, from my reading, is this a meeting

effectively about the isolation rooms in the hospital?

A It appears that that's the only thing that I'm addressing in this email because that was one of the urgent concerns that both the microbiologists had and the infectious diseases people had about where to-- Were they involved at this point? Maybe not. "I had the decision..." I can't remember.

Q Well, the reason I'm asking----

A But certainly microbiologists.

Q The reason I'm asking about this is, obviously, we can read what it says, and we see from the following page a response from Grant Archibald to you, and you forward it on to Christine Peters, which is presumably why we've got it, but the reason I wanted to check in here is this concern about isolation rooms. Is this potentially very much the beginning of your concern about isolation rooms that later feeds into your more formal things in the SBAR and so on and so forth?

A Yes, sorry. I think this is the concern that was being raised by the microbiologists on a regular basis-- is out of hours, you would get asked, "We have a patient with so-and-so, so-and-so, where do we put them?" Or somebody who needed isolation, and we would go-- Well, you should been able to say, "Right, you need to put them into this isolation

room or, you know, that isolation room," but the microbiologists felt that, especially including-- during the day and out of hours that they did not have the information they needed on which rooms were-- met the criteria for isolating particular patients, so this would be of the common themes.

Q Should there not have been a list that says, "This room is a positive pressure ventilation lobby with this pressure differential. It's suitable for these patients, these patients"? Shouldn't that be written down somewhere?

A I would have thought so. That's what we were asking for. We were saying, "Surely it cannot be that difficult to produce a list that tells us Room 1, 2, 3, 4, 5, 6: these are the standards for those rooms."

Q And there wasn't one?

A No.

Q No, and you-- I notice that two paragraphs-- three paragraphs from the bottom you state your view that a respected expert might help to clarify the situation. This seems to have been a theme of your communications.

A Yes.

Q Why do you feel, or why did you feel back in 2015, why a respected expert might help?

A Well, it isn't-- I mean, it was a

bit of a recurrent theme even before then, but I felt that what we had is we had two different camps of people, one saying this, one saying the other.

Q So what were they saying?

A Well, "There are problems," and, "There are no problems." "What are the standards for the isolation rooms?" "Everybody knows what the standards for isolation rooms." "We cannot agree." People could not agree.

Q So I want to just stop you there and try and understand that because that was-- I want to get some more detail. If your complaint was, "I do not know, or we microbiologists do not know, what that room can do and what that room can do, and who it's suitable for," and the answer is, "Everybody knows," then you no longer have a complaint because you know. They can be told. They can be told. They can tell you.

A Yes, but this wasn't-- this probably-- this expert thing about all around the ventilation because there were concerns-- I think there were other issues that are maybe not even mentioned in here that I thought, "You need to get"-- I felt there were so many arguments about-- there was the air changes, all these things. We needed to get somebody in to satisfy us that we actually knew what the position was at that moment in time.

Q Because we have emails, not involving you, where some microbiologists are asking questions of this nature and other-- and infection control doctors and nurses are emailing people in the project team and the contractors and getting some answers to some questions. Is your concern that that wasn't producing a complete answer?

A Yes. I mean, I think we needed to be sure that the-- When we raised an SBAR in September '17, we still didn't know the answer to this question. So, I think we needed the reassurance that any information we were given was correct. That----

Q So you didn't have the information and you had a sort of lack of trust in the answers you were getting?

A Well, we weren't really getting any answers, but yes, any answers that we did get. If you got an answer, it wasn't a full answer. It didn't really fully answer the question that you were asking. This is what-- it's very difficult-- it's very----

Q Well, I suppose the way to think about it is just to think about a requirement for an isolation room. Now, stop me if I've got this wrong, but you need to know what the pressure differential is, is it sealed, is there some form of reading the pressure from outside, are there filters, and what the air

change rates are, and that's sort of, roughly, it.

A Yes, absolutely.

Q Yes.

A Is the filter in the right way round?

Q That helps, too, yes.

A Do the vents work? Well, no, (inaudible). Very basic.

Q There are probably five, six, seven things that you need to know about an isolation room----

A Mm-hmm.

Q -- and are you saying that you wouldn't get told all of those things at once?

A I mean, there's so many-- Yes, or you-- they just weren't right. I've been in situations, and there's an example in my statement, where you're told categorically, "This is where we are, this is a fact," and you know that it isn't. That's happened to me on a number of occasions, so my feeling was we were really not getting anywhere. We were not getting the answers.

Instead of arguing about it all the time, why don't we get somebody in from experts? So we'll sit down together and understand what the position is, and we always said, "If we are wrong, we are quite happy to accept that we are wrong. If you provide us with the evidence that we are wrong, we will accept that, but we need to sit down and be sure that the information that we're given is correct."

Q Well, let's work through what you then did. So, I want to show you a document, which I want to see whether you saw at the time, because you might not have done. It's from Dr Stewart, and it's bundle 14, volume 1, page 464. Now, this is a 2015 document, I understand, to have been produced by Dr Stewart, I think following Dr Peters' resignation.

A It might have been. It might have coincided with me having had a meeting saying I was concerned about the culture within Infection Control.

Q It might ---

A It might-- it was all around that sort of time.

Q Exactly, and we can ask Dr Stewart a bit more about how he came to write it, but had you seen this document back then at the time it was produced?

A No.

Q No?

A Absolutely not, no.

Q Okay. He says----

A Can I-- sorry.

Q Yes, go ahead.

A Can I add, I think there's a lot of documents that I have seen and a lot of occasions where concerns have been raised, people have looked into it, but the reports are never really shared with anybody. So I had no idea whether Dr

Stewart and Grant Archibald had actually listened to what I was saying. It wasn't just me, what I was saying and others were saying about the culture within Infection Control because we never-- this was never shared with me, anyway.

Q But you've read it subsequently when we showed----

A I've read it as part of the Inquiry, yes.

Q Yes. Now, the reason-- I want to show you one particular bit and get your comment on it because it struck me as one that I want to ask Dr Stewart about when I get to him. It's at the bottom of – and let me get the right page – the bottom of page 464, and this is a section which appears to be of general findings, and the final paragraph on this page does state:

> "There is also a need for greater clarity around levels of accountability in the decision-making process, especially where there are conflicting views and opinions. On the one hand, there are reports from ITDs of having their professional authority undermined by the overturning decisions by the IC management team. On the other hand, there are reports of ICDs not taking decisions when given the authority to do so."

Now, I'm not going to ask you about that sentence. It's the next one I want to understand:

> "Whilst it is clear that concerns of patient safety is the primary motivator for ICDs when arriving at decisions, there appears on occasions to be a lack of appreciation by some ICDs of the need to risk assess decisions from an organisational-political perspective."

Given that you were involved in raising some of the concerns at this point, and you've previously been, albeit until 2008, an ICD-- had ICD functions, what do you take from that final sentence, and what do you understand by it?

A (After a pause) I suppose you could read it two ways, but I suspect that what people are saying-- what he might be saying is that the organisation has-- there may be a problem, but you have to risk assess the situation and decide whether-- what standard you-- you know, how near to that – a particular standard or a particular, well, I would call it a standard – you want to get.

So, it may not be realistic for the organisation to reach, say, a gold standard, which is a word that has been used. It's not realistic to expect a gold standard with everything, so it may-- I

think that might-- it could be a criticism of an ICD that they expect too much, that they expect the standard to be too high, and it's not realistic for the Health Board to deliver that standard.

Q You said there might be another meaning. What's the other meaning?

A I mean-- I don't know, and I don't think it's this meaning, but the other one would be that there were some infection control doctors who don't want to investigate things and just say there isn't a problem so, “We won't bother.”

Q And you don't think it's that?

A I don't know, but that is a-- because that is a reality: "There's nothing to see here," you know, that, "We don't have a problem." But I think it's more the fact that-- I think here, just reading between the lines, that it's more you cannot expect the organisation to reach the standards that you expect. You are asking too much.

Q Because, obviously, we've heard on a number of occasions – indeed, it happens around about this time in respect to the decision to commence bone marrow transplants in the Schiehallion unit – that the need of the patients to have the bone marrow transplant is so high that it's considered, on a balance of risks, appropriate to go ahead and use a room which has still a few outstanding issues with it, and that's a balance of risks.

A Yes.

Q Is that what-- effectively, that's an aspect of what you might think is being talked about here or something else?

A Yes, I mean, it could be-- Yes, I would-- There are situations where you have-- there has to be a balance of risk in making some decisions, but that doesn't mean to say that you cannot try and achieve the best possible scenario for that group of patients, and maybe that's not expressing it terribly well.

You know, for example, if we go back to, you know, the old Victoria hospital, which didn't have lots of single rooms, you might have a patient who really needed to be isolated but they were too unwell to be put into a single room. So, on the balance of risk, you would say, "Well, you know, we'll have to nurse that patient on an open ward," and what we might do is block a bed with-- that isn't done anymore, but you may block a bed so you increase the distance between two patients and you have to nurse that patient on the open ward because the risks of that patient of being in a single room is too great.

But, if you're looking at a new hospital, you know, occasionally in the real world you have to make some

compromises, but you have to get the basic thing of the rooms right, the specification right. There were certain-- It's not like you're making it up as you go along. You go to the documents and the guidelines and you follow them, in my view. I don't think it's unreasonable to-- You don't move patients, like the-- moving patients from the Beatson. The accommodation wasn't right at the Queen Elizabeth at that time.

You have to-- in my view, you should try and achieve a gold standard or a highest-- what is a gold standard? That's a definition perhaps you need to explore, but you should try and achieve the best possible thing and minimise the risk, and I think it depends what you're talking about and this is a brand-new hospital, brand-new ward. You know, the full requirements should have been there, in my opinion----

Q So the other----

A I don't know if that answers your question or not.

Q The other thing, I think-- It's helpful. The other thing is to understand, if what is being talked about here is the importance of balancing-- of looking at risks holistically, looking at all the different risks of acting and not acting and moving and not moving, is it possible to carry out such a risk-benefit analysis without knowing what the specification of the ward or the room is?

Can you do this balancing exercise that we've talked about – where you decide, for example, to nurse a patient in an open ward or go ahead in a treatment in a room that's not entirely up to specification – in ignorance of what the actual circumstances are?

A I think you need to understand the specification and the risks in the area where a patient is, and then you have to compare it and understand the risks of where you're moving them to, and then you have to decide where the risk is greatest. Does that answer the question? Is that----

Q I think so.

A I think you have to understand both situations. You can't say, "Well, we're worried about this. We'll just pop them there without checking that there meets standards." I would think that probably should be better than the environment that you're moving them from.

Q Well, I want to look at an email which I think we've probably already touched on the substance of, which is at page 470 of this bundle, and effectively you forward it onto Dr Peters, but you email David Stewart. Did you have opportunity to read this before you gave evidence?

A I did, but I've read so many

things. I can't really----

Q Take a moment just because I want to ask you what was it that was prompting this email. I think you've already touched on it in your evidence, but----

A So I think the first bit is back to the isolation rooms. So the microbiologist and the ID teams don't know where to put patients, so they're wanting to check again that the information they've been given is correct and so I've cited some examples of MERS and a multi-resistant TB, which, in the end, had to be moved to other hospitals within Glasgow or outside GGC because we didn't have the facilities at the new hospital.

Q I just wonder whether this is effectively back to what you've actually been talking about, more or less.

A Yes, I mean, I think it's-- I'm trying to explain, I think, that there are a lot of problems, there are a lot of concerns and there are a lot of people that are worried about it. I don't know whether that summarises it.

Q Well, yes, I think the important thing-- the reason I put the document here was just to connect this document to your evidence, and I think we've probably usefully done that and----

A So can I say that, you know, I've emphasised again here, and it would be the driving force for everything that the people we've been talking about have done, and that is patient safety. I mean, that was just the driving force. Anything that we have done is ensuring patient safety and doing the best for patients.

Q So I have a question which I was going to ask in a way that made-- flowed neatly from the previous one, but you've actually answered the previous one----

A Sorry.

Q -- so it'll just be out of context. At various places in-- at this time, there's discussion – we can take this off the screen – there's discussion of the use of prophylactic antibiotics or antimicrobials on a regular basis in-- with patients who are in some way immunosuppressed or neutropenic, and there's a discussion that we've had in other evidence that this might have been done because of issues with the environment, and that's still something we need to resolve and reach a conclusion on.

But, from your point of view as a microbiologist, are there any issues that you'd want us to take account of and think about when considering the use of, I wouldn't say regular, but quite frequent prophylactics in this sort of patient population?

A I think I would divide that into two timeframes, if that's okay. The first timeframe is when I was actually working

and I was aware that there were concerns about the haemato-oncology patients and I think, on two or three occasions in my memory, that all the children on the ward were being treated with prophylactic intravenous, and there's a difference between intravenous and oral prophylactic antibiotics.

Intravenous, obviously, the side effects are greater and it's a very, very toxic antibiotic, and I felt that there may be a situation where-- and that, I don't think, is national protocol, but I didn't go back and check that. People were just saying to me that this is worrying this has happened, and there may be a situation where you do the risk assessment, you say, "At this moment in time, the risk is really high that we have problems. We need to give them-- You need to treat them with intravenous amphotericin."

My feeling there is that, if that's what is having to be done, that-- why are people not jumping up and down saying, "This is not reasonable," you know? If it's being done because you think it might be the environment, why are people not shouting from the treetops?

Q So you see it as a sort of a red flag?

A Yes, I mean why are people not shouting, "You need to-- We shouldn't do it-- We need to do it now, but we need to be addressing the issues

that mean that we need to do it." If that was the reason, I'm just-- That's my view of what I was told because I wasn't directly involved with the kids.

I didn't have experience in paediatrics and, as I was retiring, I decided, you know, it's better that somebody else trains up with that expertise, but I would have thought that it was-- and Dr Harvey Wood, who's been mentioned, she just did paediatrics, she was concerned that they were using these drugs.

Q What was the other aspect that you mentioned? There were two aspects that you wanted to----

A Well, it was when I-- I hadn't appreciated how, when I listened to the patients and relatives-- I was aware of this, but I was not aware of all the other prophylactic antibiotics that appeared to be used, was my impression, because of the environment, and I find it hard to understand why there wasn't more concerns being raised at a very senior level about what was going on.

Q Okay. Right----

A But that goes onto the, you know-- my feelings about the whistleblowers,

Q Now, if we can go to paragraph 94 of your statement, page 93. Now, I'm not going to go through this in huge length because you have set out

your concerns that you took to Robert Calderwood before he retired and Jane Grant after she arrived as chief executives because you don't have the email, so we just have your statement. So we've read that, but what I wanted to understand, because it wasn't entirely clear to me, to what extent these communications addressed the issues that you subsequently raised in the SBAR?

A Sorry, I'm not quite clear of the question.

Q So, in the SBAR – we can come to that in a moment – you raise a series of issues, and I wanted just to see if there's a sort of match between the same issue being raised in this process with the chief executives a year or so earlier.

A Right, well, all the individuals, all the ICDs that resigned would have been-- were raising issues. I wasn't the only one raising issues in-- I was just-- When I spoke to Grant Archibald or Dave Stewart, I'd be saying, "There are a number of microbiologists and infection control doctors who are raising issues. They have got all the detailed information, they are not being listened to. They are worried. There are more issues, they're not being listened to, they are worried."

And these people-- My impression, and people can speak for themselves, but my impression is that the ICDs felt they could not do their duties-- they could not do their duties safely because they weren't being listened to and they weren't being given the information they needed to make decisions and they just felt it was just too stressful, that they would end up making a decision that was wrong because they couldn't-- they couldn't do their job because they did not have the information.

Q So this is a-- seems to be another example of you taking comments from-- that you've received from colleagues, perhaps junior ones sometimes, and passing it onto senior office holders you know because you've been a manager.

A Yes, effectively.

Q That's obviously one way of them learning about these issues. Should there be another way that doesn't rely on the serendipity of a senior former manager, as it were, being willing to listen and pass on messages?

A No, I mean-- These people would have been reporting through their own-- their management structure, which is what I would tell them to do, because there's no point going to a senior manager and they turn around and say, "Well, you never told-- they didn't tell their line manager," you know. I had to be

sure that all that was being done and, at the end of the day, right up to, you know, the medical director would probably be the top of the tree where they would go, the concerns were being raised with the senior Infection Control Team, which was the manager, the lead ICD and the lead ICN.

You would expect things to be managed at that level and that would be their responsibility, if they felt there were concerns, to report that up through the chain and, if it needed to go to the Board, it needed to go to the Board. No, it shouldn't rely on me having to do that. I didn't follow those lines because I didn't think there was any point because they already knew and they already had done nothing or they had not reacted as these individuals felt.

So that's why I-- Because they would come to me and say, "What do we do? What do we do? What do we do?" and that's why I used my previous connections, if you want to call that, and, at the time, respect I think that they had for me to approach these people and they were prepared to speak to me, and I would say to them, you know, "There are individuals who've got all the details. They're available if you need to see them."

Q Because what I want to be sure about is that, when you raise this in your SBAR, which I'm about to come to, you raise specific things. What you seem to be saying to me is that, at this stage, most of the stuff you're raising is about-- effectively, it can be very, very shortly summarised as, "There are a lot of microbiologists who don't feel they're being listened to." And, within that, there are examples around ventilation, isolation rooms and these things. Have I got that roughly right, what you're----?

A Yes. Yes.

Q Has the issue of water quality come up in these conversations by this point?

A Not-- I don't think in-- I could be wrong, but I don't think it came up in 2016. Dr Inkster would be able to speak to that because she was the----

Q Well, it's about you I'm thinking about because this is----

A I cannot remember the water. Definitely the ventilation. The Mucor was being-- I think was isolated from the air.

Q Because I'm thinking about February '17, when you meet Robert Calderwood and----

A Oh, right, '17?

Q -- at that time, would water have been on the agenda, from your point of view? From your point of view, not necessarily somebody else's?

A I can't absolutely remember. I'm sorry, I can't absolutely remember.

Q What I want to do now is to move onto your whistleblow and particularly to the policy itself in 2013, which is bundle 27, volume 4, document 3, page 45, and I want to go to-- So this is the policy.

A Yes.

Q Now, if I understand correctly, this policy has been substituted by a replacement policy, I think, twice since you used this----

A Yes.

Q -- but this was the version that you had access to at the time, and----

A Can I just see the list of-- just to be 100 per cent sure, the list of the Step 2 people that you should contact?

Q I'm just going to get the right place because----

A I think it's probably about page 3 or 4. I'm pretty sure it is if it's the one I looked at----

Q It is on page 47, at the bottom.

A Can you go on the next page?

Q The next page.

A Yes, that's the one. That's----

Q That's the one, okay.

A -- the one we used in 2017, yes.

Q Right, brilliant. Could you go to paragraph 13.7.2, which is on page 47? And this is the procedure.

A Yes.

Q Now, obviously we're aware that you've been a whistleblower and that you've publicised the fact that you're a whistleblower and so I can talk about you and ask you questions about it, but whether your own personal whistleblow was properly investigated in respect of you personally isn't, I think, within the remit of the Inquiry. The overarching policy might well be and the issues that underlie it probably are, and so I'm conscious that you ultimately become quite concerned about the failure, in your eyes, of the Board to recognise your first step in the whistleblowing process.

A Yes, yes.

Q So I want just to deal with that now, really by looking at this document. So this is 13.7 and there's an instruction at 13.7.1 to follow the step below, and the first step is, effectively, to raise the matters with your line manager.

A Yes.

Q Now, at this point, who was your line manager?

A Well, one document that I've read seems to dispute it, but I think we just-- I think the line manager we picked because of the confusion with Infection Control and microbiology was Jennifer Armstrong, I think.

Q Right, as the medical director?

A Yes.

Q Right.

A You could argue it was Tom

Walsh and Sandra McNamee. Just to put this into a bit of context, this was a time when all my colleagues were wanting to go to the press, and we'd contacted the Medical Defence Union and the BMA and the GMC, and we were told you've got to exhaust every single process within the Board. So we decided to get the whistleblowing policy out because was the last thing we had to do and we thought, well, what's the point of going-- doing Step 1, when we've already been reporting it to all these people?

So we had a big debate about that and in the end we decided, no, we're going to start with Step 1, then we can't be criticised, and take it from there. So that was-- that was when we made the decision to start with Step 1, and we selected Jennifer Armstrong as the medical director for-- responsible for infection control.

But I think it was clear that we were thinking about this for some time, and there are-- there's a trail of emails, which I'm sure you're aware of, that we were, you know, not saying we'd do-- go to Step 1, trying to get them to engage with us for months and telling them we did not want to have to end up going to a Step 2. We tried and tried to get them to engage before we ever just did Step 1. We just didn't-- we just didn't do it, if that----

Q I want to show you some emails, one particular thread, but I'm conscious I might not be looking at the whole story. There may be emails that precede it and, if there are, I'd like you to tell me what they were because I can't find them, but it doesn't mean they don't exist. If we could go within this bundle to page 722. No, definitely not page 722. Sorry, bundle 14. Bundle 14, volume 1, at page 722.

Yes, so this appears, at the top of the thread, to be an email from you to Dr Armstrong. Now, what I want to do is start at the beginning, or what I think is the beginning, and find out whether it truly is the beginning. So could you, please, go to page 727? Now, this is an email from you, seemingly, on 5 September, to Mr Walsh, Ms McNamee and Brian Jones, and you set out your views in this email. Now, this email comes, I think, on a day when it subsequently turns out that Mr Walsh is on holiday.

A Yes.

Q Were you aware of whether Ms McNamee or Professor Jones were on holiday at this point?

A I have no idea.

Q No idea?

A I would-- I would think it was highly unlikely that Tom Walsh and Sandra McNamee were on holiday at the same time. I would-- but I don't know for

sure.

Q You seem to be raising two issues in this document. Well, what do you think were the issues you were raising?

A One was the inexperienced ICDs, that-- which I've-- was a continual thread from 2014-15.

Q Right, and the second section seems to be ventilation.

A The ventilation issues, yes. I don't think water's mentioned there.

Q Well, I didn't think it was. I mean, just to check.

A No, I don't----

Q So if we go up the thread, so that's up the page, we have an email from you to Dr Armstrong only 10 days later. Now, I want to check whether you had had a reply from anybody who received the previous email that we haven't got.

A I can't remember, but presumably not.

Q I mean, the context suggests that you didn't.

A Yes, I don't think I did, but I can't remember for sure.

Q Because it says here, “I have not even received an acknowledgement of my email," but I wanted just to check whether, for example, Sandra McNamee or Professor Jones had phoned you up or----

A Absolutely not. I mean, I think

I hadn't because I said, "I'm disappointed that I feel I have to escalate my concerns.” That must have meant that I hadn't received anything.

Q Right, okay.

A I assume.

“I've not even received an acknowledgement of my email.”

Q And that you're picking them because they're management?

A They're next up, yes, so there was a-- I think I was probably unclear as to what the division and responsibility for Infection Control was, because both Jennifer Armstrong and Dave Stewart were medical directors for the Board. I think Jennifer Armstrong had the direct responsibility for Infection Control, but Dave Stewart was one-- a person I'd been raising issues with and I'd done a lot of infection control work with him over the years, and he still had a responsibility, I suppose, to ensure that what was happening in Acute, which was his responsibility, was okay. So I probably covered it by, you know, writing to both of them.

Q So, you send this email and then, a few days later, you send another one, if we scroll up again. Because, at this point, you're on leave.

A Yes.

Q So over the next page.

A Yes, it was half nine at night, yes.

Q Another night-- a nighttime email.

A Yes. That's because I was on holiday.

Q Was that a particularly good idea to do a nighttime email while you're on holiday, do you feel? Why are you doing that?

A Because everybody was desperate and I was desperate to try and get it sorted out. I was only working two days a week. I didn't have access-- I could not send emails, work emails, from home, so I went in and sent the email. That's----

Q And this raises more issues.

A Yes.

Q And then you send a third one.

A Yes.

Q Shall we scroll up again? You say at this point, before we go to the top of the email, "I hope not to have to take this to Stage 2."

A Yes.

Q Now, you accept that you haven't mentioned Stage 1 in the first----

A Yes, I accept that, yes.

Q Right. Do you think that might have caused some confusion down the track?

A Well, it has been pointed out to me, sort of. You don't need to say that

it's a-- that you're raising a Step 1. I've had-- I've had professionals, including somebody who gave me support through my Step 3, who has a legal background, that, in fact, you could argue that every single time I spoke to Dave Stewart or Grant Archibald or Robert Calderwood or Jane Grant that that was me whistleblowing, even though it wasn't formally written down.

Q Yes, because the protection isn't-- there's no magic word.

A Yes, and I think the policy says you don't have to officially call it that. I think that-- I think when I reread the policy a couple of days ago, I think it does say that. So, the feeling was that, really, 27 October-- sorry, September '17 was not the first time that I was a whistleblower.

Q Yes, you would see it----

A But, in my head, I hadn't actually ever thought of it as that, but that's what-- that's what a number of people have said to me.

Q Right. If we go to the previous page, 724, which a long email, right at the top of this page.

A When was that? Oh, that was the day or the day before I sent in the SBAR, I think.

Q Yes.

A Yes.

Q So----

A I was on holiday again.

Q You're still on holiday and this then prompts a response from Jennifer Armstrong, which we see at the top of the page 723 at the bottom of the page.

A That's right, yes.

Q So, she's arranged for her assistant to send this to you. Her position is that she knew you were on leave and so she'll wait until you returned and a meeting is organised.

A For the day before I come back from holiday, yes.

Q I suppose, to be fair to them, you'd shown engagement while you were on holiday anyway.

A Yes. Well, I know. Dr Peters was speaking to me in – where was I? – Vienna, so we were-- yes. We had the meeting on the 4th of-- 4 October and I went in to approve the SBAR with Dr Peters on the 3rd.

Q Well, what I wanted to do was to ask you about, in a sense, how much difficulty was caused by the short deadline, or is the short deadline actually something you welcomed because you wanted things resolved?

A Well, it caused a lot of difficulty, but I had given them a deadline of 11 October, so----

Q You couldn't really complain that it was the 4th because----

A So-- Well, it would have been

nice it could have been when I'd come back from annual leave, but anyway, no. I mean, it caused a hassle, but we dealt with the hassle and I think that's the least important thing in this whole process, you know, this being a whole lot of hassle. We did it. Dr Peters prepared the SBAR. I went over it and checked I was happy with it with the other individual, and we put in the SBAR. We missed their deadline because I'd been on annual leave, but it was there for the meeting at eight o'clock on 4 October.

Q The thing I wanted just to check with you is that-- and it may be there's another set of emails out there from other people, but this thread with you doesn't read as if it's an email from three people. It reads like it's an email from you, so would there have been separate emails from the other whistleblowers?

A I don't know. Probably not.

Q Probably not?

A I mean, Dr Peters would be the only one that probably would, and I don't know if-- I would've thought if----

Q Well, we can go through that with her, that's fine.

A I mean, I'm sure if there were emails at the time she would have probably produced them, but it was probably just me.

Q So you also sent a text

message to the chief executive on 27 September, which you've reproduced in your statement.

A Yes.

Q Do you see that as connected in any way to the fact you received this email on the 28th?

A Well, I think-- I think I'd had communication with Jane Grant when she-- from-- I think it was about the end of April when I first contacted her, when she started on 1 April, and I felt it was only courteous to let her know that-- what we were what we were doing, so that-- which is what I did. So I just informed her that we were having this meeting.

Q Well, let's go to page 732 because it's the SBAR itself. What I'm proposing to do is-- My Lord, I think this might be a good point to break for lunch, and we'll come back to the SBAR and what happened afterwards after the lunch break.

THE CHAIR: Very well. We'll do just that. Dr Redding, we're now breaking for lunch. I don't intend to sit again until ten past two, so if you could be back for ten past two----

A Fine, yes.

THE CHAIR: -- that would be excellent.

A Right, thank you very much. Thank you.

(Adjourned for a short time)

THE CHAIR: Good afternoon, Dr Redding.

A Good afternoon, my Lord.

THE CHAIR: Mr Mackintosh.

MR MACKINTOSH: Thank you. Good afternoon. When we broke for lunch, we were looking at your SBAR, which is bundle 14, volume 1, page 732. Now, this was a joint effort, I understand.

A Yes, primarily written by Dr Peters, but yes.

Q Right. Now, what I'm going to do is, I'm going to focus on a few things, as it were, that I think are important, but if at any point when I'm looking at this document or the next two or three that I take you to-- because I'm not going to take you to every document in the sequence----

A Yes.

Q If there's anything you feel that I'm missing, please don't hesitate to say, but my primary purpose is to focus on a couple of things largely around water and ventilation, something to do with management style as well. I noticed that on this page, there's a section to do with ventilation almost immediately mentioned in the box, in the patient placement section, and there's two references to SHTM standards. Does that come from

you or from Dr Peters? The middle of the page in the----

A Yes. Well, I think probably Dr Peters was the one who, in her role as infection control doctor, had identified that there were problems with the standards not being met.

Q Right, so what I----

A But I wouldn't disagree. I mean, I'm not disagreeing with what she said.

Q Well, if we can go on to the next page where there's a narrative of what happens in June 2015, and one can see in the middle of the page a discussion of protective isolation and the various rooms in the hospital listed at the top of the third column, then a statement that there are HEPA filters that are then not fitted in the PICU isolation rooms where bone marrow transplant patients are regularly accommodated----

A Yes.

Q -- and there's some work to be done. Now, the reason I'm looking-- and then at the bottom of the page, in May '16, there's a discussion about air changes per hour. Now, what I wanted to do is a couple of things here. Looking at the first section, that June '15 section, somebody has realised that in June '15, because that's the way of the structure of the document.

A Yes.

Q Would that have been you or Dr Peters who realised it then?

A It wouldn't be me who recognised it. It could have-- June '15, Dr Peters had started at that point. It could be Dr Peters or Dr Inkster----

Q Right.

A -- I suspect, who were involved because-- Yes.

Q The bottom section, which is May '16, it's about the single side room accommodation and the air change rate being three rather than six. When did you realise that was something that was the case in the hospital?

A I think, again, that was Dr Inkster or Dr Peters who identified that in 2016, and it was certainly one of the things that I drew to the attention of David Stewart and Grant Archibald when I spoke to them in 2015/16. Must have been before-- Yes.

Q At this point, I appreciate you're working with colleagues and you've heard things from other people. Had you, by the time you wrote this SBAR, heard any suggestions that there should have been rooms in the hospital that should have been 10 air changes per hour?

A I don't recollect that conversation. Certainly, the HEPA filters were an issue and the air changes, the three to six. It may well be people were

aware of that, but I hadn't been party to that conversation---

Q That's important because I'm just trying to-- one of the things that I want to understand is when various things come to people's mind, when they come to their attention, and you've explained helpfully that these two rows are arriving out of Dr Peters' or Dr Inkster's work.

A Yes.

Q So, if I get it correctly, any discussion of 10 – which doesn't appear in this document – you don't have any recollection of hearing that by this point.

A Not-- no, I don't.

Q Right, okay. Now, if we could go on to the page 735, which is the Estates section. Now, I want to understand what seems to have become important-- So 735, not 1735. Yes. It seems to have later become important about whether you're talking about water quality or water testing, and in this particular table you have a row at the top which is headed "Water quality" and talks about taps, and then you have a row below that which is "Water testing" and is about infection disease doctors requesting testing.

A Infection control doctors.

Q Yes.

A Yes. Infectious diseases consultants are the clinicians on the ward, so this would be infection control doctors and not the infectious disease consultants.

Q Yes.

A Does that make sense?

Q It does. So the thing I wanted to understand was, the top row, how much did you have knowledge about what's going into this issue about TVCs and their maintenance?

A The principal thing that I knew about – because I keep going back to the fact that I was there as more of a conduit as anything else, and to take some of the attention away from the other people who were raising these issues – was the water testing, the fact that we had an infection control doctor who was requesting testing because he was concerned that the water could be a source of Stenotrophomonas, and that they were struggling to get the water tested.

Q Right, and that's you effectively repeating that particular person's----

A Yes. I mean, I was the voice that-- as I say, to divert attention from other people, take a bit of the pressure off them because of what was happening to them. I was the one who it was that-- who took the blame, if you like, for presenting other people's information.

Q And you were the most senior person in this group of three?

A Well, I had been the most

senior person over my years of experience within the Board. I didn't have a management role at the time----

Q No, I understand.

A -- but I was seen as being the one with the most managerial experience in the group.

Q Before we leave this page and the issue of taps, at this point-- because you may have learned about it subsequently, but that probably isn't helpful from our point of view. At this point, had you formed any view about there being an issue around the Horne Optitherm taps?

A No, I hadn't. I respected the opinion of my colleagues who understood these things.

Q Okay. Well, we'll ask them about that. On to page 738, which is the discursive section. No, 737, sorry. 736? Thank you. I wanted just to understand where you're going with the infection control structure here. We've talked about this at some length, and you seem to be raising at least three issues here. How many of these issues in the infection control structure are coming from you directly?

A Well, these were all things that were being discussed at the consultant meetings.

Q Right.

A So these are things that would

have been brought up and discussed by infection control doctors and microbiologists because a lot of the issues that ended up in the SBAR had been drawn to the attention of the group by a number of people, so we're back to the resignations of infection control doctors. So some of the microbiologists, if they were just now doing microbiology, they would talk about the culture that had resulted in them resigning. So this was a very, very brief summary of the issues that there was. Really, we were trying to make the point there was a problem with the culture within Infection Control that needs to be addressed.

Q And so, from your point of view, this section is a sort of brief summary of all the things you've been talking about with people----

A Yes.

Q -- back for some years?

A Yes.

Q Right, and I want to just break it down for clarity. So the first sentence seems to be that you are raising the fact there's a lack of clarity about what role Infection Prevention and Control had at a doctor level in the planning and commission of the hospital.

A That was a question that we'd raised, whether that had happened. Certainly, when I was an ICD, we had been very, very closely involved with

what was happening with the planning. What I didn't know is whether that input from an experienced infection control doctor had diminished after 2008 when I was no longer involved.

Q It seems like all you're looking for is information, a few names and a description of what they did. Have I got that right?

A Well, I think the feeling was that we needed to understand whether Infection Prevention and Control was as heavily embedded in the planning, commissioning and everything stages of the new hospital as it should have been, as in the guidelines.

Q Right.

A Because it says it should be embedded, it's a responsibility of the IPCT, and so what we needed to-- what we felt that-- needed to understand because we didn't know that needed to be looked at, is what had happened, whether the involvement that should have taken place had taken place and whether IPCT were proactive in being involved. Because, over the years, it's quite common for things to go ahead, plans to happen, that Infection Control were not involved in, and it's really the job-- especially something like this, it wasn't happening in secret-- needed to ensure they were embedded all the way through this whole process.

Q Right. That's helpful.

A Does that answer your question? Yes.

Q The second sentence seems to be a reference--:

> "ICDs are not being informed of HAI SCRIBE meetings and incidents in a timely manner."

What's that a reference to?

A I think that the HAI SCRIBES were being done by the infection control nurses and the infection control doctors were not made aware of it.

Q Right. Then there's a discussion about what you then saw as a lack of investigation-- lack of resources to investigate potential outbreaks, and then there's the gap of experience.

A Yes.

Q And then there's what you describe as lack of communication, and that people are making decisions on incomplete information.

A Yes.

Q Right. Now, what I wanted to do now was to sort of jump forward in the story – because we've got details in your statement – to the minute of the meeting that followed this SBAR, the one on 4 October, so that is on page 753. Now, other than the people who are whistleblowing, who at this meeting was an Infection Prevention and Control

doctor?

A (After a pause) At the time, I think that Professor Brian Jones was acting lead infection control doctor while Dr Inkster was on sick leave.

Q Thank you. Other than Professor Jones – who's explained in his statement that he had some involvement in setting the requirements for what became Ward 4B – is there anybody else in this meeting, other than the three of you, who has any infection control experience that is relevant to applying SHTM 03-01?

A Well, Sandra McNamee, who subsequently became Sandra Devine, was the lead infection control nurse or associate-- No, that's the director, isn't it? In my head, she was the senior infection control nurse, and Tom Walsh, as the infection control manager, with the lead ICD, would be the senior IPCT----

Q Right, well, that's helpful.

A -- team.

Q In broad terms, were these minutes accurate?

A Depends what you mean by "broadly."

Q What I mean is, is there a flying chance of recording that certain things were talked about-- even if the accuracy of what you might disagree about, the accuracy of what's actually said about topics, at least the topics are correctly recorded?

A I think the topics are correctly recorded. From memory, Dr Peters and I went through the minutes and there were certain things that were inaccurate. I can't remember now absolutely everything that was inaccurate, and we put in suggested changes to the minutes and I'm sure there were things that were discussed that were never minuted, but I'm pretty sure that we had comments that were never taken on board.

Q We've got emails about that so I wasn't proposing to take you to those.

A Yes.

Q The reason I wanted to ask that is because, on page 755, halfway down the page, there is a discussion with the paragraph that begins, "Ian Powrie advised that the HEPA filters were installed..." Now, what I'd noticed is – it may be it's the minutes are unclear – that there had been-- we've seen correspondence in 2015 describing the fitting of HEPA filters in the paediatric bone marrow transplant isolation rooms. Well, he's discussing their fitting, and that was in 2015, and I wondered if that had come up in the conversation, because it seems to be that Mr Powrie is saying that, at this point, only two rooms have HEPA filters. You may not remember, but we're trying to sort of nail this down, when the HEPA filters were fitted.

A I mean, reading that minute, to me, it looks as if they've now installed them in adult ITU, which-- you would wonder why, when the hospital has been open for two years, it took till then, and it looks as if they were now thinking of adding HEPA filters to Ward 2A because they weren't in place. That is my reading of that.

Q Right, okay.

A But, I-- I could be mistaken.

Q Can we go on to page 757? Now, it may be that you don't recollect this conversation-- part of the conversation, and it's the single side room accommodation section. Now, given that you've said that this bit probably came from Dr Peters, it may be she's a better person to ask this of, but it describes you outlining that the air changes for all clinical accommodation are three instead of six because of the inclusion of chilled beam technology, and there's discussion of dust.

There's a response from Mr Loudon saying that Dumfries and Galloway have chilled beam technology, and Mr Powrie says they're being cleaned and maintained. Then you are supposed to have asked, just by the DL on the right-hand side, if the air changes can be changed from three to six in some rooms and you're told that is not realistically possible.

A That's right, yes. I remember that. Would you like me to elaborate a bit on that?

Q A little bit. I'd like to understand, in a sense, how you-- what you thought about that when it was said, because it seems quite a strong-- a clear statement.

A Well, I felt it was all very well for chilled beams and the solutions because I didn't have the knowledge or experience about chilled beams to know whether, you know, three air changes with chilled beams then tick the boxes, and I just-- I think I just asked, "Can you change, you know, the spec from three to six?" I knew what the answer was, and the answer was that they could not do that, so I did ask them that directly.

Q So you already knew the answer at this point?

A Yes.

Q But I suppose at least it provides a date for us on which the fact that it couldn't be increased was at least acknowledged.

A Yes. I subsequently had spoken to a ventilation engineer that said there are ways of doing it, but it is extremely difficult.

Q We've spoken to one already and we've got more to come, so we'll speak to them.

A You know, so I think it's not

impossible, but the question I asked at the time was, “Can you?” and the question (sic) I got was, “No.”

Q Right.

A I have a very clear memory of that.

Q You can't remember whether there was any actual discussion of SHTM 0301 in terms at this point?

A Not specifically, no.

Q No, okay. Now, the next bit is over the page, but before we do that, I need to pick up something at the bottom of this page. You see the five lines at the bottom, where it goes:

> “At this context, Sandra McNamee reported the point prevalence survey. The hospital was under the national average for infections and all alert organisms were monitored by the IPCT and no indications that the site had higher than average infection rates.”

You see that there?

A Yes.

Q What I want to do is I want to-- I've been asked to pick up a few things in your statement to see if we might-- they might nail down what you're talking about at various points in your statement. I wonder if you can go to your statement, if we leave this for a moment to go to paragraph 131 on page 105. So you see this is a reference to, "We should have looked at all the cases of bacteraemias/line infections from first to last."

A Yes.

Q And do you see on the fourth line, you say, "HIS did an audit"?

A Yes.

Q Could that have been HPS?

A I thought HIS. I thought it was called HIS at the time, but later----

Q Well, could----

A -- it-- but it----

Q If I show you what I think it might be, you can tell me whether you think it's the same thing.

A Yes, it was-- it could well have been HPS.

Q Can we look at bundle 3, item 3, please? Sorry, it's not bundle 3, it's bundle 7. If you could go to the beginning of the bundle, thank you. So, from your point of view, you think it was HIS, but you're not sure?

A Well, I think they used to-- my memory is that, historically, I think it used to be HIS and then it became HPS. I'm not----

Q So you're using those words interchangeably?

A Yes, I think so, yes.

Q You wouldn't want us to go around thinking you're certain it's HIS if it turns out it's HPS?

A I thought Health Improvement Scotland used to be what it was called, and then I think it's changed to HPS.

Q Well, I think----

A Certainly the organisation that's working as-- I mean, it's changed now to something different, but it's the-- it was the organisation that-- Yes, I mean, HPS, I think, is probably----

Q The organisation----

A -- what's recognised through the----

Q The organisation that receives HIAATS and sends nurses to IMTs?

A Yes. Yes. I think so, yes.

Q Right. In that case, that's fine. What I want to also do is ask you to look down, further down, page 133. Page 105 of your statement. Do you see, at paragraph 133, you make a criticism of a report by HPS and, in essence, your criticism is the report doesn't compare the results from the current period with the previous period. Do you see that?

A Yes.

Q Now, it's been put to me that how-- would you accept that that might not have been the purpose of the report? It might simply have been to do a snapshot of what was currently then going on?

A I would suggest that that's what I would have done. I still maintain that, if you were doing any investigation like that, you should have looked and-- because the statement started off with the comment that the first case was identified in 2016. We then looked at-- I think it was from January to September '18, and I felt that that missed out the rest of 2016 from the first case and the whole of 2017. So that, in the first instance, for me, didn't give you a true representation of what was happening at the RCH hospital.

Q If it was the case that HPS felt that it could only carry out this sort of analysis for the period it had been invited to be present – and couldn't go and look backwards into the past because either it didn't have the data, because the Health Board had the data – would that at least explain why they've done this, even if it wouldn't be what you would do?

A I would still have expected to go from the first case in 2016 to-- unless they were not given permission to be given that data. The data is very easy to extract from the computer system, the laboratory computer system. It would be a very easy search to do, and I--

You know, I accept that you might decide that it's not worthwhile looking at a, you know, 12-month period before in the old hospital. That's a very-- again, would be a very quick way of just seeing if there is a huge difference of what happened before and what happened

after. In my head, you know, I believe that that would be the way I would want to do it, but I still maintain that, unless HPS are saying that that's exactly what they were asked to do-- in which case I would say I think that was the wrong thing to be asked to do.

Q Well, I think it might be that----

A And I would have challenged that.

Q -- it's not that they weren't-- they were asked it as they felt they could only stay within their period they were involved without going further back. Have you dealt much with the HPS nursing function at IMTs in recent years?

A No, no. Well-- I would never have-- if I had-- if I was dealing-- I have dealt with outbreaks with them and I-- you know, if we were having that conversation, I would have asked them to do from 2016 to 2018. I cannot understand why that would not be done.

Q Okay.

A If that was Glasgow who decided, you know, that's a different-- Well, I just don't understand it.

Q What I'm going to do then is-- Thank you for that. I think that explains your position quite comfortably. I wonder if we could move on to bundle 20, document 48, page 792, which is, we understand, the action plan that was produced, 27-point action plan, and this

is the version that went to the Board on 5 December 2017. When did you realise it had gone to the Board at that date?

A I didn't.

Q So they didn't tell you----

A We were never told, no. We received the action plan-- I can't remember exactly when. Maybe Dr Peters has a record of when we received it. I remember Dr Peters and I sitting down and going through it, making a lot of comments, a lot of things that were not right in the action plan, and that would be sent in-- I think we got it at the same as the minutes of the meeting of 4 October, but we were-- I was not aware that it had gone to the clinical governance.

Q So, one of the things that you, effectively, then do is you take the non-inclusion of issues that you raise – or, in your eyes, the non-satisfactory addressing of these issues in the action plan – forward into your next stage of your whistleblow. Have I got that right?

A And also the inaccuracies that maybe were in the action plan and the minutes.

Q Yes.

A So that's all of that. We were-- Because we were getting repeated concerns being raised by microbiologists, infection control doctors – there are new issues, there were the same issues, nothing seemed to be improving – in

November 2017, I wrote to the director of HR because the policy that we'd used in September was out of date, because the names of who we should contact for Step 2 were not-- most of the people had left the organisation.

So-- and we had been warning them, even before we did the Step 1, that we were hoping to avoid Step 2, and at that point we were either getting no feedback or unsatisfactory feedback, and certainly things were not reassuring us or any of our colleagues. So it wasn't because of necessarily the inaccuracies in the action plan; it was just the whole general concerns that we had that--

And we kept warning them – it was just myself and Dr Peters at that stage – in an attempt to get some dialogue, to get people to sit down with us and reassure us that things are happening, explain to us what was happening, explain what was going on in the background, and I think there's an email or----

Q Well, I'm about to get to that email.

A Sorry.

Q But before we do that and leave the meeting and the action plan and the minute, what was your impression of the way your SBAR was received by that meeting?

A Well, they were clearly concerned enough to have a lot of very

senior directors at the meeting, and there were a lot of very senior people. They contested some of the things that we were saying, which is fine. You wouldn't expect them to accept everything, I suppose, but we didn't feel that what they contested-- we argued against what they said, and it was very difficult to argue against what we were saying.

I felt that then-- the concern I had was, at the time, that they were diluting, so they were asking one individual after another, "Could you go away and address that? Could you go away and address that? Could you go away and address that?" And there was-- and I thought, it was only afterwards when you come out of a meeting-- Because it was a pretty traumatic meeting to go through. It affected the others with me more than it affected me-- was that, "How is all this going to be pulled together? How are we going to sit down again and go, 'Well, let's just see how we're getting on?'" Some things we knew were more challenging than others.

Q Did you think that there would be-- Were you given any impression that they would have you back and tell you what they had done afterwards?

A I can't recollect whether they said that we would. I mean, there's nothing in the minutes to say that we would bring it together, but I would have

thought normal practice would have been to, you know, go away, get the information that-- because all the information was not necessarily-- was not available in October, and then come back to us and pull it together and discuss how they were getting on.

I felt that we gave them-- we tried chasing up. We tried to get information. We tried-- well, we said to them, "There are still problems, there are new problems. What is happening?" I was accused of possibly harassing people because I kept sending emails. I think Dr Peters was the same, and that's what-- so we went from November till when we put in the Step 2 in February.

Q Would you like to look at it?

A Yes. I mean, that's----

Q Bundle 14, volume 2, page 72, at the bottom, because I don't want to go to it in great detail.

A I mean, there was nothing-- We didn't-- apart from the fact that we were not getting-- we didn't feel we were getting anywhere and that everything wasn't being addressed as it should be, we did not bring up any really new issues. You know, what we decided to do was we're going to go to Step 2 with all the detail. There were other things, but we thought we'd stick to the details that had been brought up in the Step 1.

Q At the bottom of this is your email to Dr de Caestecker on 8 February at 7.20 in the evening. On the next page, we see five items summarised in a rather long email.

A Yes.

Q Yes. Now, what I wanted to do was firstly to note that you raised this under patient safety.

A Yes.

Q How do you feel that sits with your duties as a doctor registered with the GMC? How do you feel this is required or justified or excused by your duties as a doctor?

A I don't think I need an excuse to bring up concerns of patient safety. I think that's my duty and that is a duty of any doctor, to raise matters that they believe is a risk to patient safety, and that is what I believe I was doing.

Q What would you say to the suggestion that, once you've raised it, you just let it go and leave it to the people you raised it with? Because that's the view of a couple of witnesses we've got to come in their statements.

A I would have thought that, if somebody raises an issue that is a serious issue, that, out of professional respect apart from anything else, and they're clearly worried and they keep asking, "Please could you explain to us? Could you please tell us what is happening? There are still more

problems. We're still seeing the same problems," that, out of courtesy, you would bring them together to reassure them that everything was happening and have a discussion about what was happening.

That wasn't happening. We weren't getting briefed, plus there were new issues, we were still raising problems, people were still coming with new things. So, the situation, and I think it says in one of my emails, is actually getting worse.

Q Well, you start raising the issue about water as well at this point in a substantial way.

A So, you know, I feel-- I can understand why perhaps you would like people to stop, you know, "Give us a chance to sort it out," but there's just no evidence that that is happening and, if we're not aware of what is happening, if they really are doing something, why not come to us and say, "Look, you're being unreasonable. This is what we are doing. We are doing this, this, this, this and this."

Q Because I think the point they've made back to you is that there's the 27-point action plan. That is the action and you're being unreasonable by not accepting it.

A But we didn't-- we never signed-- we were never able to fully sign off the action plan.

Q In what sense do you mean that?

A There were errors in the action plan and inaccuracies in the action plan.

Q So you sent your feedback----

A Yes.

Q -- and you didn't know it went to the Board? They didn't tell you it went to the Board?

A It didn't-- I don't think it did. Well, we've never seen any amended-- The document that we see, that you just showed me, is the original document. There were no changes made after our comment.

Q I see, right. So you receive the document, the one that goes to the Board is the same, they've not changed anything?

A I mean, I would have thought it would have been a sensible thing to do to meet with us and say, "Right, well, here are the minutes, here's the action plan, you know, are you happy with that action plan?"

Q But they didn't do that?

A No.

Q No. Now, the one more-- two more documents I want to take you to – because there's something I don't quite understand, and since you were in the meetings, you might be able to help me – are the whistleblowing case report at Stage 2. The first of them is bundle 27, volume 4, page 81.

Now, this appears to be a document which I don't imagine you saw at the time, which is a report internally about your whistleblowing case at Stage 2.

A Yes.

Q So when did you first see this?

A The first-- my first or second time I had an engagement with the Public Inquiry.

Q Right. Now, the reason I want to show you this is because I want to firstly get you to check that you and I are on the same page about how this is produced. So, this whistleblowing investigation would have been done by Dr de Caestecker by interviewing other people?

A Yes.

Q Because she wouldn't-- presumably wouldn't have direct knowledge of all this?

A Right. I mean, we had a meeting-- myself and Dr Peters had a meeting with Dr de Caestecker the day that she retired, and she then assured us that, you know, I would be given feedback and-- we would be given feedback and she then went off and interviewed a number of people and hence the report that I was completely unaware of.

Q Right, and I want to look at one particular point or two particular points. We're at the top of page 83. If we go to the top of page 83 and zoom in. Yes. It's this top paragraph. Now, I appreciate that ventilation isn't your thing, but you've been involved in this process from one perspective and so you may be able to help me who are the people being described in this first paragraph.

So, Dr de Caestecker reports to the readers of this report, "I discussed with the Lead Infection Control Doctor the three versus six air changes," which you'll recollect was when Mr Louden said it couldn't be increased to six. At this point, when you make the Stage 2 whistleblow in September 2018, who was then the lead infection control doctor? Could it have been Dr Inkster at this point?

A It was Dr Inkster. She had been on-- She came back from-- I'm trying to just remember now. She came back from sick leave in January '17.

Q Right, so we'll ask her about that conversation, but I want to look at the next sentence: "The Scottish hospital building note recommends six air changes per hour." Now, are you able to help us whether that's an entirely accurate sentence, or should we go and ask a ventilation expert?

A Yes, I'm pretty sure that's an accurate statement, yes, because that's where we-- that's where we would get the information that it should be six. I think there are tables that tell you, you know, it

should be six for a standard room, it should be 10/25 depending on----

Q I want to look at the next sentence:

> "However, the Infection Control Team consider the additional risk to patients in standard accommodation as negligible as three changes brings contamination down to 5 per cent and it is single accommodation."

Now, it then goes on to discuss there's no-- that there's been no transmission of higher-risk pathogens, but it's that single sentence from "however" to "accommodation." At that point, if you see in this document the words "the Infection Control Team," who is that?

A For me, I would understand the Infection Control Team to be the infection control manager, lead infection control nurse – I think she's called something else, but-- – and the infection control doctor. That would be the senior IPC Team.

Q Right, so we'll ask them why they said that. Then it says, and this is-- of course is being written in September '18:

> "There has been no transmission of higher-risk pathogens and there are now alternative pathways in place for the very high-risk ones such as MERS and MBRTB."

Would you include Cryptococcus neoformans as a higher-risk pathogen although it hasn't happened yet?

A No.

Q So what would you include by higher-risk pathogens?

A These are things that are highly contagious, so the MERS and the multidrug-resistant TB. So these-- the path-- There were no, at the time-- unless things had changed until September '18, there were no facilities within the Queen Elizabeth to nurse patients with MERS and multidrug-resistant TB.

So my understanding was-- is that the pathways at the time were to either transfer them to a unit at Glasgow Royal Infirmary or outside Glasgow. I think maybe Lanarkshire----

Q So that's what I wanted to ask, and it may be you don't have the-- you don't feel confident in answering this, and please say so, is that, if you had a patient with MERS, would you treat them in a single room with six air changes and no other ventilation facilities?

A No.

Q No? So what's that sentence doing there, as far as you understand it? Is it relevant to the air changes per hour,

three to six?

A It's not relevant and I think what it's-- it is saying there are alternative pathways, but it doesn't identify, and I don't think I'm mistaken-- is that, in fact, these patients, these very high-risk patients, have to go outside-- you know, somewhere other than the Queen Elizabeth. Does that answer your question?

Q It does, and then the next sentence:

> "The risk in aerosol-generating procedures is reduced by advising to keep FFP masks on whilst in the room and period for the end of time after procedure."

Now, I don't think you're the right person to ask about the interplay between ventilation standards and risk from aerosol-generating procedures, unless I've got that wrong, but-- Are you able to help me on whether that is a key part of the risk that they're designed to address or just one part?

A I don't know what it's doing there. I mean, we've got your aerosol generating things. It depends which FFP mask you're talking about. It just struck me as not being quite right. I don't really understand. It doesn't make sense to me, that.

Q And what's the last sentence?

"One hour normally. This is the period after the end of a procedure." Is that how you read it? There's just some punctuation?

A Yes. Yes.

Q Now, of course, this is Dr de Caestecker's wording and she may have misunderstood or may be summarising.

A Yes, this is-- I'm not absolutely clear what they're trying to say. An aerosol generator's if you are-- I imagine they're talking about you're having to suck a patient out who's got a chest infection that is highly infectious and so you've got to protect the-- obviously the environment, but you've also got to protect the person who's doing the procedure.

Q Yes.

A And so, yes, you need to use, you know, the highest-level protection masks and other protective clothing. "One hour, extending it to two hours," I can't really comment on that.

Q The next paragraph – I've got one bit at the bottom of the page I want to ask you about – is this suggestion that an expert in the field was being recruited. Are you aware of whether an expert in the field of ventilation was ever recruited?

A I'm not sure. I mean, I would always ask, "Was that expert a truly sort of independent, external expert to give advice, or was it"-- that would have given

me confidence, but----

Q No, but what I'm trying to ask you is whether you were ever told who was recruited.

A No, no.

Q No? Right.

A No, because I'd retired by that-- I'd retired at this point, so----

Q Now, I'd like to go to the bottom of the page and ask you some questions about the criticism made of Dr Peters, simply because you raised the whistleblow with her. Now, the first bullet point I can ask her about because it's suggesting that she doesn't balance risk, and we discussed balance risk with you, so I know your views on that already, so I won't press on that one.

The second bullet point interests me. It is suggested that it's relevant to her interests and her actions that she's no longer an infection control doctor, having resigned from the role. Do you see there's a barrier for a microbiologist raising Infection and Prevention Control issues because they're not doing IPC sessions?

A Absolutely not. I mean, it's part of your job. You are-- As a consultant microbiologist, you always-- you may not dedicated sessions and you may not be involved with management on a day-to-day basis of an infection control issue, but you absolutely, as I said earlier, have to be able to alert the Infection Control Team that there's a problem. You have to understand the problems that are ongoing in the hospital so that we can ensure that every single bit of information that is needed by the IPCT is channelled in their direction. So I think you have every right to know and understand what is going on, I would say.

Q Now, the next paragraph is a criticism of her ability to work in a team. Have you got any observations to make about Dr Peters and her ability to teamwork?

A I've known Dr Peters for many years and she's a very, very dedicated, hardworking microbiologist and she puts a lot of effort into ensuring that a team works well together to deliver a service, whether that be a microbiology service in the laboratory or a clinical microbiology service which interfaces with clinicians, and there are many people who would speak up for her ability in both those things.

So the first thing would be when-- to ensure that all the standards that need to be met are met by the laboratory, and she would play a huge part, and a huge amount of respect from a lot of the biomedical scientists would be able to speak to that, and also her involvement with clinicians, and-- She did a lot of work with cystic fibrosis people and the

respiratory teams and Intensive Care Units-- both Intensive Care Units that we worked on.

A huge amount of respect from people outside microbiology and within microbiology for her, and I would absolutely-- which is one of the reasons why I embarked on the whistleblowing process, because I had absolutely confidence in her opinion and her views on what was happening, and her concerns, and so I would support her fully, so-- And she's-- again, with me, has always said, "You prove to us that what we're saying is wrong and we will accept that."

Q The next bullet point is the one which I mentioned at the very beginning of your evidence, which is that Dr Peters doesn't accept that infection control is a nurse-led service. I can clearly ask Dr Peters what he thinks about this, but what do you think about the idea that infection control is a nurse-led service?

A I don't think infection control should be a nurse-led service and, going back to what I'm saying, I think you should work as a team, but I certainly do not think it should be an entirely infection-- an infection control nurse-led service. I think it needs----

Q And why is that?

A Because you need the experience and the expertise of an

infection control doctor and the two together to work as a team, so when you're making-- Again, as I mentioned earlier, when you're making major decisions, that should be an infection control doctor and nurse input.

If there are things that are really a risk to patients, the infection doctor may-- you may just run it past them to say, “Look, this is what has happened. This is what we've decided to do. Is that okay?” Not for everything, obviously, but it's very much-- but it cannot just be run by an infection control nurse without some input. So I would say to have it as a led service is not-- is not the right way forward, no.

Q Now, I'm not going to ask you about the next one because I don't know what updates are being talked about. I'll ask Dr Peters about that, and you've also described-- you have already described your views on the relevance of the role and responsibility of a microbiologist in terms of Infection Prevention and Control, so I don't feel the need to do that.

But the last one, well, you and I have discussed already today sending emails late at night, when you had gone into the hospital to send emails. Do you have any observations? You've already talked about people not wanting things written in emails. Do you feel you can say anything about this final bullet point

that's based on your own personal knowledge?

A The causing of anxiety?

Q No, the sending of a persistent stream of emails.

A An update. It's back to what I was accused of as well, of harassment, by continually asking for an update on what was happening.

Q And you've already explained why you think that's important, so that's very helpful. Thank you.

A Yes, I think that's the same as that.

Q What I want to do is move on to-- At this point, I think you went public – so we can take it off the screen – and you've explained in your statement, from paragraph 167, about how you went to a member of the Scottish Parliament. Now, and you did this-- was this soon after you received the response to your Stage 2 from Dr de Caestecker?

A I think so. I can't-- I can't remember exactly. It was around about that time, yes.

Q So, how do you respond to the suggestion that for you to go public like this would cause distress to patients and families connected to the hospital, particularly to Schiehallion patients, who've got enough to worry about at the time in their lives?

A I don't think it was-- I don't think the fact that we had raised-- I went to see Anas Sarwar and didn't-- he didn't know who I was, and I just-- All I had-- all I said to him at that initial meeting was that-- because I knew he was involved, that he'd been in the press talking about problems at the hospital, and he was also the Shadow Health Minister for Labour.

And I went to him and said, "Just to let you know that we have raised-- that a whistleblow has been raised, and in-- one of the things in the whistleblow is ventilation." And that-- he then put in a Freedom of Information request to the Health Board.

Q But what do you say to the idea that by going public, as he did, as you did then, to him, taking it out with the organisation, that you're effectively going to cause anxiety because there'll be-- press will no doubt report that there's a problem with the ventilation system?

A Absolutely. I mean, we went-- thought long and hard about that. I spoke again to the BMA and the GMC, and the advice was, “If you do not feel that the problems are being taken seriously and being addressed, and you've followed every single procedure within the Health Board organisation,” which we did, but the final thing was the whistleblow, “that you're-- it's not unreasonable to go.”

But we understood all that. We understood that it would cause problems,

but we had-- we had to fight for getting things addressed and put right in just the long term. So, you know-- but we were-- we didn't do that without a great deal of heartache and a great deal of consideration.

Q What I wanted to ask is, there's a second suggestion that-- how do you respond to the suggestion made by the Health Board in one of their submissions to this Inquiry that for you to go public at this point amounts to making false allegations against your colleagues and publishing inaccurate information?

A Can you say that again, please?

Q So how do you respond to the suggestion that is made in one of the submissions to this Inquiry from the Health Board that for you to go public amounted to making false allegations against work colleagues and the Board, and involves producing-- publicising inaccurate information?

A I didn't-- I don't believe that I publicised any inaccurate information. As I say, the only thing I said to Anas Sarwar was Freedom of Information. He got information from that. Later on, when we did the BBC programme, that, again, was-- and as an absolute last resort. So I don't believe that we did, that anything that we did not believe was true.

Q Thank you. Right. You then

describe in your statement from paragraph 190, on page 123, that you wrote-- or the previous paragraph on 123, you describe writing to the Parliamentary Committee, and we have your submission and we read that. And then, the lower half of the page, you talk-- meeting Ms Freeman, who was then the minister, twice in 2019, and you described who was present at the meetings.

I really have three questions for you about the whole sequence of meetings with the minister, and the first is, what did you actually tell her about the ventilation system at the hospital in terms of the air changes per hour?

A Well, then-- the initial meeting was with-- was organised by Anas Sarwar, and myself and Dr Peters went to that. I think we told her that the ventilation did not meet the guidelines.

Q Were you more specific than that?

A I think we probably did say that, you know, the six to-- there should be six hour changes where there was only three.

A At this point, did you ever mention that some of the parts of the hospital should possibly have been 10?

A No.

Q No. At the meetings, how did she respond?

A Well, it wasn't just about ventilation. She listened to our concerns. She listened about everything that had happened, everything that we had done, and she was very-- she seemed to be very interested and concerned with-- and thanked us very much. And I think we were-- we were thanked publicly as well for doing that, for raising the concerns and bringing it to her attention.

Q Did she give any indication of how she or the government would act after your meeting?

A Not at the meetings, no.

Q Did she give you a later indication of what she intended to do?

A Not directly. Well, the first meeting was very informal and she went away and she said she would, you know, think about it. And then we had the more formal meeting when we saw Fiona McQueen, and that was a formal meeting at the Scottish Parliament. And, again, she listened to what we had to say and it was following that that she took the actions that she-- that she took.

Q And she set up the review and the Public Inquiry?

A Eventually, the Public Inquiry, yes.

Q Okay. Not necessarily in that order, of course.

A Well, I think public review was before the-- Sorry, the independent review was before the public review.

Q But the special measures for the GGC was before?

A Was that before the Public Inquiry? I can't----

Q I think it might have been, but maybe that's not the point. Right, I want to turn now to your Stage 3 whistleblow. So, at this point, you've gone public, to some extent, and you've met the minister and you've written to the Scottish Parliament anonymously. But then, bundle 14, volume 2, document 167, which is page 627 of volume 2 of bundle 14, and this is your Stage 2 whistle-- Stage 3 whistleblow. It's in a much shorter compass.

A Yes.

Q Now, in your statement, at paragraph 196, you discuss being asked to sign off the action plan, that everything had been done.

A Yes.

Q At this point, did they tell you it had been to the Board?

A Did they tell me----

Q Did they tell you the action plan had been sent to the Board, back in December '17?

A It depends what you mean by the Board. It had certainly been discussed at the clinical governance infection control meeting. Oh, sorry, the clinical governance, which my

understanding is feeds then into the NHS-- sorry, the GGC full Board, which is made up of executives and non-execs. I have not seen any record of it having been discussed at board level.

Q No, okay.

Q And so-- but I could be wrong. I have looked for it, but I couldn't find, when I looked, any minutes for December '17, for the Board. I could find the governance-- clinical governance ones, which are the ones you showed me, so I don't know whether it ever went to the Board. And one of the things we asked Linda de Caestecker to do was to make sure that the concerns around ventilation were put on the risk register for the Board, so----

Q And that would involve going to the Board and telling them you'd done it?

A Yes. Well, yes, because the risk register goes through the organisation and everything doesn't end up at the Board. So a decision is made as to what goes on to the final, the big infection risk register, and we felt it was important that the Board knew that the action plan-- and that there was a risk to ventilation that we had raised, was on the risk register for the Board. And she did say that in her letter, that it would be on the risk register, but she didn't say which risk register, so I don't know if that ever happened.

Q I mean, obviously you've explained what happens at this meeting, and I appreciate that and we can read that. What I don't understand is how it-- was it ever explained to you how you would reach the conclusion that the action plan had been actioned in order to agree that it had been done? If you're being asked to sign off that the action plan's been done, how would you work that out?

A Well, I did explain to them that I no longer work for the organisation, and that I had no means of knowing what had been done or not been done to address everything in the action plan. I was told that I could ask people who work for GGC and I said, “No, I can't do that because they're not allowed to speak to me,” and we were very, very careful, once I retired, not to discuss anything that breached that confidentiality. I said, “There's no way I can sign this off because I do not know.” But they did press me two or three times and I just said, “Well, I'm sorry, I can't do that.”

Q Why do you think they made the suggestion?

A Presumably, they wanted to say that a whistleblower had-- that I said that everything was fine, but I was not in a position to do that.

Q I want to look at one last

document, which is also in bundle 27, volume 4.

THE CHAIR: Right. Just so that I'm following, it's in 2019 that you're being pressed to agree?

A Yes. Well, I put the whistleblow in in November-- in November '19, but this probably-- it ran over into January of '20, so this was January, January '20.

MR MACKINTOSH: Well, I think it might be-- page 125 of your statement gives us a date. Could this be the meeting with Mr Edwards and Mr Ritchie on 4 December 2019?

A That was the first meeting, where I just met with them, and I think-- Jennifer Haynes was at the meeting taking minutes, I think.

Q Is this the meeting in which they raised the question of you signing off the action plan, or is that a later meeting?

A No, I don't think so. I think that was the meeting that we then had in January, towards the end of January.

Q And that could be paragraph 200, on page 128? (After a pause) Is it then, on 29 January?

A I think so, yes, yes.

Q Right, okay. What I want to do is go to one more place, which is the same bundle. It's at bundle 27, volume 4, page 116. So this is the report from your Stage 3 whistleblow.

A Yes.

Q I want to go to a paragraph you might recognise. When did you receive this, incidentally?

A It's in my statement. I can't remember. About-- it would be March or May, May time of '20. I can't remember exactly.

Q Right. If we go to page 119, so it's the----

A Is there not a date on it at the end, sorry?

Q No, I'm not looking for-- The date is at the end. If we go to the end, which is another two pages----

A So I assume that's when I received it.

Q Keep going. Yes, May 2020.

A May, yes. That was my recollection, yes.

Q So----

A Sorry.

Q No, that's fine. We're almost there. If we can go back to page 119. So do you see the middle heading is "Issues with the new QEUH/RHC"?

A Yes.

Q And then, "Much of this... relates to the issues raised at Step 2."

A Yes.

Q And we see a paragraph that we've just been through in a previous version. Now, I wonder what you took from the removal of the reference to the

lead infection control doctor in this paragraph.

A I don't think I did, in particular. I think there were so many things that were wrong with this report that I knew about that I was focusing on that. I was also focusing on the fact that there was a lot of information in there that I could not check myself because I did not have the information, and I had asked-- they had asked me to contact some colleagues to see whether they would-- if they would approach William Edwards and Mr Ritchie, but they didn't feel comfortable doing that and they wanted Mr Edwards and Mr Ritchie to approach them, which they said was bullying, so they couldn't do that.

So we're at an impasse that-- So I asked whether this report could be shown to these-- to my colleagues so that they had an opportunity to comment on the accuracy of what was in this final-- what was in the whistleblowing report, which they did. So, with their permission, I shared it, and my understanding is that two or three colleagues put in comments, but I didn't see them because it wasn't appropriate for me to see them because, again, I was no longer employed by the organisation. So they did put in comments about the accuracy of what was in this report.

The final outcome, from my point of view, was that they were not prepared to change some of the inaccuracies in the report, which I know is a-- which I took even further. So, in that particular instance-- and I'm sorry, that's a long-- I was very much focused on getting the other. I don't think I perhaps noticed that.

Q The reason I mention this is because, in the previous version, in Dr de Caestecker's version, Step 2, this paragraph is preceded by a reference to speaking to the lead infection control doctor and followed by a statement that there's to be an expert appointed. You don't know whether there's been an expert appointed?

A No.

Q But this paragraph is in effectively the same form from the point:

> "The Scottish hospital building note recommends 6 air changes per hour. However, the Infection Control Team [although it's now capitalised, which it wasn't before] considered that..."

And all the rest is the same.

A Yes.

Q What I wondered is, if there had been an expert that had been instructed, would you have expected to see the results of the expert's investigation in this report?

A So what was the timeframe?

So that was-- so the original-- Yes, I would have at this stage because that's probably two years, isn't it

Q Exactly.

A -- after my original----

Q So the section on air changes per hour for the general wards hasn't changed in two years and there's no longer mention of an expert, and you started this process asking for an expert. That was the very first thing you – almost – said.

A I didn't-- I think I've heard recently that an expert was appointed, but I certainly wouldn't have known that at this stage.

Q Right.

A And I'm not sure who that was, whether they were an internal appointment or an external expert.

Q But you, ultimately, also raised the following whistleblow about the way that the Board had not acknowledged your Stage 1 whistleblow as a Stage 1 whistleblow, and we have that detailed in your statement.

A Yes.

Q What I am proposing to do is to suggest to his Lordship we might break now for 10 minutes to see if any of my colleagues have any questions that they feel I should have asked. My Lord, if that's an appropriate time to do that?

THE CHAIR: We'll do just that. Dr Redding, what I would like to know is whether there are any additional questions in the room and we'll give Mr Mackintosh 10 minutes to ascertain that, so you'll be taken back to the witness room.

A Okay, thank you.

(Short break)

THE CHAIR: Mr Mackintosh?

MR MACKINTOSH: We have one question.

THE CHAIR: One question?

MR MACKINTOSH: It's not the shortest question in the world, but we have one question.

THE CHAIR: Dr Redding, I understand that Mr Mackintosh has perhaps one or two questions.

MR MACKINTOSH: (To the witness) So, do you recollect about half an hour ago we talked about an HPS report, which you challenged on the basis it hadn't looked back at the previous years of infection rates? It's mentioned in----

A Going back from the first case in the new hospital----

Q Yes, that's right.

A -- was the first. It was the first case---

Q Yes, and you observed the

report you were talking about only focused on the incident at the time and hadn't, in your eyes, looked back into the past.

A Yes. Looked back to the first case. I mean, you know, I would always have gone back to the first case that was identified, which is 2016, and look to that moment in time that you decide to have a look. You can't----

Q Well, indeed. So there is a report in bundle 3 at page 194 which I'm going stick up on the screen now, which, once you've had a chance-- we've worked out what it is, whether you've seen it before-- So it's called the "Situational Assessment, Wards 2A/B" for the Royal Hospital for Children, and if you look at the bottom of the page, it's reported to be for "Health Protection Scotland". This is version 1 in June 2019, which is after, of course, you've retired. It's also helpfully referred to as a "Confidential draft."

Now, I'm going take you to appendix 4, which is page 205, and I don't want you to say anything until we've done a little bit further looking in, and then I'll ask you a couple of questions. So this appears to be an epidemiology report for December '18, and you'll see that in the section on case and episode definitions, you will see, two-thirds of the way down:

> "Data were extracted from the Electronic Communication of Surveillance in Scotland (ECOSS) system. An extract of all positive blood cultures for any patient under 16 years of age in NHSGGC was taken from ECOSS on 13 June 2018 with an update taken on 20 August [of the same year]. The case definition was a positive blood culture reported in patients aged less than 16 years in the [Royal Hospital for Children]/[Yorkhill] between July 2013 and June 2018. An episode was defined as one positive sample per species in a rolling 14-day period."

Now, my first question is, as I look at this with you, is this something you've ever seen before?

A No.

Q Well, that makes it much easier because I don't need to ask you questions about it. It's just, it's been put to me that, whatever else this is, this is a report that looks back----

A Yes. I would agree, yes.

Q -- before-- so at least when the hospital opened, and so we should probably look at this with our epidemiologists and see what it means, and we might do that on Friday. I think the author might well be our witness on Friday morning.

A My recollection of the report that I was referring to was it starts off by saying, in the executive summary, the first case was in 2016 and we have looked at the cases from January '18 to September '18.

Q And that's your criticism, effectively?

A That is the document that I was referring to.

Q Right, well, we'll look in at this.

A So it's certainly not this document.

Q No. Well, if you haven't seen it, you can hardly be criticised for not knowing it was there. So, I have no further questions for you. My Lord, unless you have any----

THE CHAIR: Can I take it that Mr Mackintosh has correctly picked up there was only this one other matter? All right. I'm thinking that is affirmation. Dr Redding, that's the end of your oral evidence to the Inquiry and you're therefore free to go. However, before you do that, can I express my thanks not only for your attendance today but for the very considerable amount of work that will have gone into preparing the statement for the Inquiry. As I say, first of all, I acknowledge the amount of work involved, and secondly, I'm grateful for you having done it, but you're now free to go. Thank you.

A Thank you very much, my Lord.

(The witness withdrew)

THE CHAIR: We can stand, but I anticipate that we'll be able to start again tomorrow at ten with Mr McKeever----

MR MACKINTOSH: Mr McKeever.

THE CHAIR: -- in the chair. Right. Can I wish you all a good afternoon?

(Session ends)

15:34