SCOTTISH HOSPITALS INQUIRY

Hearings Commencing
19 August 2024

Day 27
Wednesday, 2 October 2024
Dr Teresa Inkster

CONTENTS

	Pages
Opening Remarks	1
INKSTER, Dr Teresa (Affirmed)	
Questioned by Mr Mackintosh (Continued)	1-215

10.04

THE CHAIR: Good morning. Now, I think continuing with Dr Inkster.

MR MACKINTOSH: Yes, please, my Lord.

THE CHAIR: Good morning, Dr Inkster.

THE WITNESS: Good morning.

THE CHAIR: Mr Mackintosh.

Questioned by Mr MACKINTOSH (Continued)

MR MACKINTOSH: Thank you, my Lord. Dr Inkster, what I'd like to do is go back to bundle 14, volume 2, to the Hoffman email, which is page 140. So we talked about a later section of this, about aerosolization yesterday, but I didn't take you to the final email from Mr Hoffman at the top of the page. So, what do you take it that he's saying in the final reply to you at 10:12 on the 16th?

A So, two things: so the first one, I absolutely agree with that, that whatever is in the drains is on a one-way route, so the key there is making sure that the drains are free-flowing, and that's all going in, you know, the correct direction and there's nothing coming back up into the sink. What he is saying to me in the second paragraph-- I believe he feels that air changes are irrelevant and they are not in fact about dilution, they are more about comfort, temperature and odour control and that they're not relevant to preventing infection.

Q Now, in what context is this, is the first thing? So is this in a discussion about Ward 6A?

A It's a discussion about Ward 2A and Ward 6A because-- Because we were concerned about aerosolization from drains – obviously, Ward 2A had chilled beams, reduced air changes – I was concerned about the dilution of contaminants, and we were moving patients to a similar setting in Ward 6A with the same chilled beams, albeit the drains were not in the same condition.

Q Now, if that's your understanding of what he's said, and I get the impression he might have said the same thing, roughly, in his evidence a few days ago----

A Yes.

Q It seems clear from the IMT minutes we looked at before that you didn't report this back to the IMT. Is that correct?

A I can't recall without looking at the minutes, but possibly not.

Q Well, let's go and look at the IMT minutes. That's bundle 1, document 38, so this is the 14 September IMT.

THE CHAIR: Mr Mackintosh, could we go back to the email? I appreciate we've had Mr Hoffman's evidence, but

can we just see what he's saying?

MR MACKINTOSH: So what he's saying, my Lord – page 140 of bundle 14, volume 1 – is that there's nothing special about chilled beams, and then he just explains why. He then talks about-- he then says in the third line, for their rooms, all of them need to be passed through a HEPA filter. Now, were there HEPA filters in Ward 6A?

A No.

Q And the rooms should be at positive pressure, so all gaps leak outwards. Were the rooms in 6A in positive pressure?

A No.

Q The positive pressure without HEPA filtration is just a way, an expensive way, of challenging spores from outside to inside and the air change rate is relevant-- irrelevant.

THE CHAIR: Mm-hmm, so what Mr Hoffman is talking about is a situation, I think, first of all, when you're trying to control fungal spores from outside the hospital environment.

MR MACKINTOSH: Is that how you read it, Dr Inkster?

A I think what he's suggesting to me is that the important factors in ventilation for immunosuppressed patients are HEPA filtration and positive pressure to control Aspergillus spores, but from my perspective as an infection control doctor, I'm concerned with what's happening in the room, an ingress of potentially contaminated air into the room, but also the activity in the room. For example, a staff member with a respiratory virus and when they might cough, and therefore you're not getting the rapid dilution. So that's why my view is that, actually, the air changes are of importance in that setting.

THE CHAIR: Well, I just wonder if that's a sort of subsequent step. We'll have to go back and look at Mr Hoffman's evidence, but I just wonder if he's saying, well, what we're talking about is excluding spores from outside. You do that with HEPA filtering.

A Yes.

THE CHAIR: If you don't have a HEPA filter, or rather, sorry, if you do have a HEPA filter, then three or six air changes is neither here nor there. However, the point that I'm interested in, Mr Mackintosh, is I just wonder if what Mr Hoffman, just on the face of the email, is saying is about control of fungal spores from the outside and he is concentrating on the utility of filtration for that. However----

MR MACKINTOSH: I suppose with Dr Inkster is his Lordship's question, so let's have a look at a couple of pre-questions, which is, in this thread, if we go back to the beginning, does he know

that you're discussing a ward without HEPA filtration?

A At some point I have told him that. I can't remember if it's the beginning of the thread, but at some point I have told him that part of the ward is not HEPA-filtered.

Q Was there any part of 6A that was?

A Oh, no, sorry. I'm getting mixed up with 2A, so I think----

Q Because this-- no, well, no, this is before decant, so this is 2A, you're right. So he knows that part of the ward is HEPA-filtered. So the first question is, is that paragraph-- is he talking about the relevance of air change rates in the context of a HEPA-filtered space or a non-HEPA-filtered space?

A I think we were talking at this point about Ward 2A and what was happening with the drains.

Q Right. Well, you wouldn't have known about 6A at this point because----

A No.

Q -- because the dates don't match, so-- but although the email is about the drains and you've made the point you're concerned about stuff coming into the room or being in the room from something other than the ventilation system----

A Yes.

Q -- at this point, there are only two types of ventilation space in 2A.

A Yes.

Q The isolation rooms, which have what air change rate?

A 10.

Q And they have HEPA filters?

A Yes.

Q And the rest of the ward, which has what air change rate?

A Slightly less than three, I think.

Q And does it have HEPA filters?

A No.

Q No, so when you read this, did you see this as-- and if it didn't occur to you, please say. Did you see this to be him discussing the isolation rooms, the rest of the ward or both? Or it didn't occur to you at the time?

A I think we were discussing the rest of the ward at this point.

Q But the rest of the ward doesn't have a HEPA filter, so what do you make of his references to HEPA filters in this paragraph?

A I think I would have to go back through his email, sorry, just to see what exactly I asked him.

Q Well, if you go back to the---

A I said, "… outwith the BMT rooms" in the one below, when I refer to chilled beams and three air changes.

Q So you've actually asked the question below the page, on the bottom of the page, "I have a question re

ventilation." You've asked about chilled beams, but he's replied in a way that discusses HEPA filters.

A Yes.

Q Now, we asked him about this email. I didn't, my colleague did, and we can go back and read his evidence and see what he thought, but I suppose the question for you is simply, having received this email in response to a question about outside the BMT rooms, why did you not-- and we'll go and look at the emails, why did you not report this to the IMT?

So, hold that thought, and we'll go and look at the IMT and ask the question. So, if we go back to the IMT to page 164 of bundle 1, so this is the 14 September IMT, and this is the one where you report that you're going to speak to Mr Hoffman. Then, if we go to the IMT that follows, on 17 September, which is page 169, do we see your reply, your report back, which is on page 171?

So, what seems to be the case in this section is the only paragraph where you discuss Mr Hoffman's views in this IMT is this second paragraph we've already looked at on this page 171. So it looks like you haven't described his views on air changes, positive pressure, HEPA filter, any of that stuff that's in that final email in response to your question about “outwith the BMT rooms.”

A Yes.

Q Why would that be?

A I think, as a clinician, we speak to experts and people all the time. I mean, not just in infection control; all clinicians speak to peers, they speak to experts, but we don't have to report every aspect of that conversation back to an IMT.

It might be what they feel is the most relevant features for an IMT, and at that point I was in disagreement with Peter Hoffman about air changes. I didn't agree that air changes were just about comfort and dilution, and I didn't really want to cause confusion when we had, obviously, concerns about chilled beams and put mitigation in place by sending a message that, actually, that didn't matter, because that was the impression that I was getting from that email.

In terms of the HEPA filtration and positive pressure, we had been doing the options appraisal approach, so we knew. We knew the challenges of sending patients to another area, we knew that they weren't in a protective environment at that stage. We knew that the only place that could offer that protection was the Beatson.

Q So, at this point, which is the 17th, this is roughly the time of Jamie Redfern's options paper----

A Yes.

Q And the only options on site were adult wards?

A So the only options on site were adult wards with the bone marrow transplant beds that became available in 4B.

Q Right.

A Yes.

Q Excellent. So your answer is, effectively, “I didn't think he was right. I think he confused matters, so I didn't tell them.”

A Yes.

Q Right. Let's move on to-- We dealt with the decision on the next IMT to decant, and I want to look at the SBAR that was sent to the chair of the Health Board on 13 November. That's bundle 4, document 32, page 134-- 133, and so this is a briefing paper, not an SBAR, but it's in an SBAR bundle, so we keep calling it that, but it's in the format of an SBAR, and if we see on the next page, do you see:

> “A risk assessment was completed [it's page 134] by the Senior Management Team in the Royal Hospital ... and a recommendation was made to the GGC Board Directors who approved this recommendation ... to move ... 2A/B to suitable accommodation in the adult building. ”

Now, the reason I wanted to show this to you was just to check, did you see this at the time?

A Yes, I did.

Q At the time, did you ever have any disagreements with what's in it as its narrative, its description of why things were done?

A I don't recall any concerns at the time.

Q Okay, thank you. Ultimately, who chose Ward 6A out of all the different wards?

A I believe that was the executive team. I believe the decision was made because that was a population that could be moved – well, no move is straightforward – but relatively easily to the Gartnavel site. It's a care of the elderly ward. So I believe that it was a executive team decision.

Q But that wasn't your decision?

A No.

Q As far as you're concerned, it was just a ward in the main tower.

A A ward at the time in the tower, and then it was confirmed it was 6A, which we then obviously went to inspect, in which (inaudible).

Q Now, I want to move on now to a little bit of the epidemiology information that was available. I'm not proposing to go through that in detail with you. I just want to understand what material was

available, how it was created and what you did with it.

A Yes.

Q You've explained that you had seen the Harley Wood and Peters presentation to the haematology consultants.

A Yes.

Q And you'd seen their later report.

A Yes.

Q You don't appear to have reported that to the IMT. Is there a reason?

A It was a different piece of work, not commissioned by the IMT. So, Iain Kennedy was asked by the IMT to do the epidemiology. This piece of work came about via a different route, so this piece of work went back to the time where we were looking at prescribing for meropenem in the unit, and Dr Balfour had done an audit, and this is a piece of work that evolved from that.

So, whilst that report does contain very relevant and epidemiological information which was really useful, if you read the full report, there is a significant amount on antimicrobial resistance and prescribing. So, in units that would involve our specialist units – and I used to do this for adult bone marrow transplant – we would do a yearly review, a yearly review of all the infections and a yearly review of prescribing, and we would make recommendations. So, it came about a different route. It wasn't commissioned by the IMT, but then it did become very valuable for the situation we were faced with.

Q Then Dr Kennedy produced his report?

A Yes.

Q Now, he explains that the bacteria he's examining in that report arise out of a list of bacteria given to him by you, is that correct?

A Yes, that's correct.

Q When did you give him that?

A It would have been a few weeks before he produced the report.

Q So, sometime-- Would it have been early 2018?

A Early, sorry?

Q Early 2018 or in the autumn?

A Towards mid-2018, I would imagine. Yes.

Q He maintains – and I think it's supported in an IMT minute – that you and he were to produce a joint report.

A Yes, so----

Q Why did that not happen?

A I became available (sic) that there was obviously the microbiology report, and the intention was – and I think it's minuted – to get everyone together, so microbiology, Ian Kennedy, but also Health Protection Scotland. There was a

delay in his report, there was a delay in the Health Protection Scotland report. I was trying to get meetings in the diary, we couldn't get everyone together and then I think events just overtook us.

Then we were into things like the Cryptococcus and a very busy spell in February, and I think the key here for this incident was that there wasn't a debrief. So had there actually been a debrief organised, that would have enabled us to pull all these sort of loose ends together. It wasn't just the epidemiology reports – things like the drainage report that I hadn't seen – and I think it was simply a case of not being able to get a meeting in the diary and other events at that point taking over.

Q Because, I mean, one of the consequences of that epidemiology report not being completed is that you go into 2019 with, as it were, some unresolved-- I wouldn't say differences, but differences of impression between the various bits of epidemiology. They show slightly different things, they look at slightly different things, they carry out slightly different bits of analysis. What do you think was the consequences of not drawing that all together in 2019?

A So I suppose the IMT didn't draw it all together, but I drew it all together. So, in the background – and I didn't produce a report – I was looking at ICNET all the time, which is our surveillance system, and I was doing my own work, and I think I did email Jennifer Armstrong at one point about that, telling her that, in my view, things really started to reach a peak in 2017 and then again in 2018. So I'd kind of done my own background-but-very-crude analysis that was certainly backing up the microbiology.

I didn't feel Dr Kennedy's report was too different at that stage. It was enough for me to know that we were on the right track with this at the time, and it wasn't that I was not going to have a meeting, it was like, "A meeting may not be required" and we just, you know-- we never got there.

Q And the IMT indeed formally ended?

A It did.

Q Right. I suppose this is a good place to do another look back. So, if we find ourselves at that point at the end of the IMT in 2018, roughly when did it end? There's some indication it might have ended at some time around about November.

A November. November, yes.

Q Because we only have the IMT minutes. There wasn't a hot debrief or anything after this IMT?

A There wasn't, no.

Q Was there any form of written

report?

A No.

Q Right, and why was that?

A So, at the time, I think from the middle of the incident onwards, we had oversight from Scottish government. So we had regular teleconferences with senior staff in Scottish government, and at one of those meetings, there was discussion about a debrief and what that might look like.

I think the incident was very complex. It was obviously involving the Health Board executives but also, at that point, external agencies, including government themselves, and we were to go and have a think about what would that debrief look like and who would need to be involved.

That eventually sort of morphed into not really a debrief but an event that took place in the Golden Jubilee Hospital around July/August 2019, where representatives from GGC went and presented.

Q Sorry, I may have missed it, but tell me more about this.

A So, it was an event that was held in the Golden Jubilee Hospital and some representatives from the IMT, I believe, were invited to speak. I know that there was a communications presentation. I understand that was Sandra Bastilleo and Jennifer Armstrong. I was aware that the infection control manager and nurse consultant for infection control attended.

Q So that would be Sandra Devine?

A Yes. I wasn't invited. I was still in post at the time, but I wasn't invited.

Q So is this before or after you were removed as the IMT chair?

A It would have been around that time. It was-- I'm sure it was August.

Q So why do you know it happened? What's your source?

A I was in the Jubilee Hospital on that day for another reason.

Q Of course, and did you, what, see a sign up or something like that?

A I saw people.

Q Right, so you've not seen emails or other written forms of communication? You've just seen the people who would make the penny drop it's the same meeting?

A No, I commented on it to someone and they told me what the event was about. I can't remember who, but somebody confirmed that that was----

Q Well, we'd better ask those people because they're still to give evidence.

A Absolutely, yes.

Q However, if we step back to November 2018 and we look back at

2018-- Now, I'm going to ask you the same questions I asked yesterday about 2017 and I'll ask a few more afterwards. You've covered this in your statement in various places, and I can take you to them, if necessary, but I thought I'd see if you could help me out with this, which is: knowing what you now know, looking back at Ward 2A in 2018, before the decant, what is your opinion as to whether there was a link between patient infections and the water system?

A My opinion is that there was.

Q So what was the mechanism by which you saw that link existing?

A Basic principles of outbreak management. I have been dealing with outbreaks since 2009 as an ICD. I teach outbreak management at master's level. I was applying basic principles of outbreak management, which are epidemiological links in time, place and person. The same infections in the patients that were found in the water. This was more complex than typical outbreaks, but it was, in my view, a polymicrobial----

Q You're going to have to slow down.

A Sorry.

THE CHAIR: You are speaking rather quickly.

A Sorry.

THE CHAIR: If I am to follow you, you really have to slow down a bit.

MR MACKINTOSH: If you go back to “the basic principles of outbreak management,” I think that might be the place to re-go, and go a little bit slower.

A So, we had an epidemiological link in time, place and person. We also have a list of outbreak definitions in the National Manual, which goes beyond the traditional two cases, two linked cases, in time, place and person. There are other definitions; we'd met those.

We then have infections in the children that match the infections-- the bacteria found in the water. The nature of the outbreak was polymicrobial, so by that I mean several different types of genus of bacteria, and it was polyclonal, and by that I mean several different strains. We had put in initial control measures to the water system----

THE CHAIR: Just so that I understand, polyclonal means-- polymicrobial presumably means many micro-organisms as identified by genus and species?

A Yes.

THE CHAIR: When you use the expression "polyclonal," you mean----?

A So, by genus, I would mean, perhaps, Pseudomonas, Acinetobacter, Stenotrophomonas. When I'm talking about polyclonal, I would be meaning different strains of Pseudomonas,

different strains of Stenotrophomonas.

THE CHAIR: Right. Thank you.

MR MACKINTOSH: Are there any other factors that you would draw out in your, as it were, argument for a link?

A We'd had initial control of the incident when we put the filters on the water, on the outlets.

Q What would that tell you about whether there was a link?

A Well, that is fairly strong in proving your hypothesis. If you put a control measure in and then you continue to follow the epidemiology and there's a reduction in cases, that strengthens it even further. We then unfortunately came on to a new issue, which was the situation with the drains. The reason that we didn't see a decline in infections with our measures there is because that situation was not under control. So we had continual problems with the drainage system.

So we had an outbreak that was not under control. It's not unusual in complex outbreaks to not find the exact cause, to not find the exact solution. Well described in the literature is the fact that sometimes the only thing that has an effect is refurbishment or even building a new unit, and that is described for other situations, and that was where this outbreak was leading us to.

Outbreaks are very complex. They are multifactorial and they are multimodal, and by that I mean we have to put in a range of measures. It's very difficult for us to determine which measure has had the most effect, and sometimes we don't get the answer.

Q Slow down a little bit, please.

A Sorry. So sometimes we don't get the answer. Sometimes we don't achieve control and, ultimately, what does achieve control is a refurbishment or moving patients into a new unit.

Q Now, I think there's two factors that have been suggested that some people take the view contradict your analysis-- or three, possibly. The first one is that, at the same-- What would you say to the argument that some or all of the improvements that you noticed were a consequence of the work done with line safety and hand hygiene and just general practice, like cleaning, that don't have an immediate direct connection to the water supply?

A So these are all very important measures, and I think I talked yesterday about controlling routes of transmission, and those are part of the measures to control the routes of transmission, but we had implemented those measures very far back, as far back as August 2016, when we recognised there was an upsurge in gram-positive infections in all of the CLABSI-type work.

So, that measure had been in place for a very long time and throughout the issues, you know, in 2018 and 2019, and I would say that haemato-oncology staff are very aware of the risks of infection in children and they are usually very stringent and very compliant with infection control measures.

So, to me, those measures are important, but they had already been put in place and continued, and we had evidence from us reviewing practice that they were continuing into 2018 and 2019. So, it would be difficult for me to say that that is a factor and it helps because it breaks that route of transmission, but that alone is not the reason, in my view, that things are now under control.

Q What would you say to the argument that some of the data in Dr Kennedy's work and HPS's work that was produced in early 2019 seemed to show that, in the last few years at Yorkhill, there were rates of gram-negative or environmental bacteria that were, in many ways, broadly comparable to the rates that were seen in the four years after the new hospital opened?

A So, I think-- We've been building hospitals since-- you know, for centuries, and in very early designs you can see that people are starting to think that building a new hospital isn't just about a service, it's about making improvements in infection control, and you can see through time how that evolves into the development of specialist units like bone marrow transplant, infectious diseases. So every build that you have is an opportunity to improve on that and put state-of-the-art facilities in place.

So it does not give me any comfort as an infection control doctor to hear that rates are the same as an building. One of the key pieces missing from all of this analysis is knowledge of the water systems and the environment in Yorkhill. It was an old building. I do know from----

Q Did you say it was an old building?

A It was an old building, yes. I do know from working in Glasgow Royal Infirmary that, just after the patients moved, there was Legionella testing done. I'm not sure why, but the counts were huge. They were in the tens of thousands – significant counts of Legionella. At the time, it wasn't clear which infection control doctor would cover that area because they were obviously moving patients out, and I remember emailing the results to the infection control SMT.

That, to me, is a suggestion that the water quality in Yorkhill was poor and may have been poor for some time. So, by all means, these infections were seen

in Yorkhill, but did they sample the water? Did they make a link to water? At the time, the only guidance was Legionella and then, later, Pseudomonas, so it's possible that they were not doing any additional water testing at the time in response to these cases.

THE CHAIR: Just taking this point on-- I mean, you describe the water system in the old Yorkhill hospital as poor. Could you just give me again the evidence that you point to for that proposition?

A So just after patients moved across to the new building, for some reason, Legionella testing was undertaken from multiple outlets in Yorkhill and those results were very high. So, there were----

THE CHAIR: Right, okay. So there were high Legionella counts in Yorkhill?

A Yes.

THE CHAIR: Sorry, I had noted that you were referring to Glasgow Royal Infirmary at that point, so I----

A Sorry, I was working in Glasgow Royal Infirmary where the water lab is, yes.

THE CHAIR: Right, okay. Right, so you were talking about Legionella testing in Yorkhill about 2015?

A Yes.

THE CHAIR: Right. Is there anything else?

A Just that the counts were very high. So, if you look at the guidance, a count of 1,000 would be an immediate, you know, you need to make that water system safe, but they were significantly higher than that.

MR MACKINTOSH: There's an observation in one of the HPS reports, the HPS report that covers 2018, that the rates of gram-negative infections in the new hospital for children haemato-oncology cohort are comparable to the rates in the Lothian and Aberdeen hospitals taken together. You've seen that observation in that report?

A Yes.

Q Why does that not suggest that there isn't an issue, there wasn't an issue, it's really just in the same way that if it's the same similar rates as in Yorkhill, the similar rates in Lothian and Aberdeen, then it's surely not a problem?

A Well, again, we have no intelligence about those hospitals and their built environment and their water systems, and we're not comparing comparable populations, in my view, because the patients in 2A were bone marrow transplant patients, which the other centres don't have, and they're also a specialist referral centre, so they take the more complex cases and they're also dealing with the solid organ tumours. So I don't think that the populations are

comparable and those units are also smaller.

Q Wouldn't you expect to have a lower rate of gram-negative infections in a children's hospital that doesn't contain a tertiary centre for haemato-oncology patients? Because the patients are less vulnerable.

A Yes, but you're always going to see gram-negative infections, even in that patient group, because of gut translocation, which happens to patients when they get chemotherapy. So the gut becomes very inflamed and the bacteria in the gut then cross the lining of the gut into the lymph nodes and into the bloodstream.

So it is inevitable that, in this patient group, you will see that phenomenon, but these are with organisms-- not the organisms we were seeing. These are with organisms like E.coli, Enterococci and various anaerobes. So you are always going to see gram-negative infections for a group----

Q But just different ones?

A -- but for a different reason and different ones, yes.

Q The final observation relates to the topic of whole genome sequencing, which we discussed yesterday. I don't want to go into it in huge detail, but if it's the case that there weren't close connections between the various patients

who had these infections in 2A and the other patients who had the same strains in the same unit at the same time and there weren't close connections between those patients-- the bacteria in those patients and the environment samples that were available, is that not a reason to suggest that there wasn't an environmental connection and that your opinion is misplaced?

A Well----

THE CHAIR: Sorry, it's my fault entirely, Mr Mackintosh. Could I just get the proposition that you're pointing? Well, first of all, the distance I've got so far, you're pointing to the lack of identical strains. Is that----

MR MACKINTOSH: A close genetic connection.

THE CHAIR: Sorry?

MR MACKINTOSH: A close genetic connection, my Lord.

THE CHAIR: Yes, right.

MR MACKINTOSH: So in the absence of a close genetic connection between patients who have the same bacteria strain infection and, indeed, between those patients and the environmental samples that are available – it's effectively Professor Leonard's hypothesis – what do you say to that, the argument that that effectively excludes the link that you're making?

A I would disagree for the

reasons I went through yesterday. So I think I talked about the input, which was the sampling strategy, which was flawed. There wasn't sufficient sampling in the areas where the children were placed, both of the water system and the drainage system. So the sampling that we did was not what I would call representative.

THE CHAIR: Again----

A Sorry.

THE CHAIR: I mean, it's partly a reflection of it-- Speaking for myself, we're in an area where I'm not expert, and I'm keen to follow what you're saying and also note what you're saying, and my ability to do that is very dependent on your speed of delivery.

A So I talked about the input yesterday, and by that I mean the sampling strategy, which was not comprehensive for, I think, reasons I've explained, and that includes the water system, the water through the outlets, but also the drainage system. It was limited in terms of numbers and it was limited in terms of time because we diverted resource elsewhere.

So we do not have, you know, a full representation of what was happening in that water system in line with the time period of the patient infections. So that's the first point. The second point is in relation to the colony picks. So the whole genome sequencing was done on the basis of a single colony pick and I described yesterday, quoting evidence from the literature and also Suzanne Lee's view, that ideally we need 20 to 30 colony picks, and that wasn't done.

Then I described the prolonged nature of the contamination going back to the installation and the likelihood of extensive biofilm, complex biofilm, and we are dependent on what is being sloughed off that biofilm at the particular time we take the sample and that can change. So, for that reason, I would not agree with that hypothesis. It was limited. It focused on one organism only, I believe, Enterobacter.

MR MACKINTOSH: Yesterday, I asked you a similar question about your view if there was a link between the infections in 2017 and the water supply.

A Yes.

Q But we didn't go into it in the same level of detail.

A No.

Q Your reason for having that opinion about 2017, looking back to 2017 and before, is that the same as what we've just heard or is it more different? Using those tools, how would you justify your opinion for the 2017 link?

A It's the same reason. It's the same type of organism. It is the same diversity of organisms and it goes back

again to the fact that the system was contaminated at the time of installation, and I believe by that point in time, several years later, sufficient biofilm would have been built up.

All of these organisms that we saw in 2017, 2018 and 2019 are of the same category, so they are-- I'm not sure this term has come up before, so the term is opportunistic premise plumbing pathogen.

Q Opportunistic premise?

A Premise plumbing pathogen.

Q Premise as in a place?

A As in the place.

Q Plumbing pathogen?

A Yes.

Q Do they have an abbreviation?

A OPPPS.

Q Please continue.

A Sorry?

THE CHAIR: Right, maybe I need to take that again. Opportunistic?

A Premise plumbing pathogen.

THE CHAIR: Thank you.

MR MACKINTOSH: Right. What I want to do is ask the same question about ventilation in the context of November 2018. So, knowing what you now know and looking at the event-- where we stood in November 2018, were there any infections that you consider that occurred before that date had any link to the ventilation system?

A Potentially Aspergillus, particularly the first IMT in 2016. I think the 2017 one had a very clear link and the more plausible hypothesis was water damage, but the early cases in 2016, yes. My concern-- and, again, I'm not a ventilation engineer and I was not able to test the hypothesis, but in 2017 we had several gastrointestinal outbreaks: rotavirus, astrovirus and vancomycin-resistant Enterococci. So these are all gut organisms and these outbreaks, at the time, were very prolonged.

Q Sorry, could you repeat?

A Sorry, these outbreaks were very prolonged. They were difficult to control. We were puzzled at the time as to why, with intensive infection control measures, we weren't bringing them under control. When I read that report about the potential for the mixing of the dirty extract and the clean air, I wondered whether that had been a factor in why those outbreaks had been so prolonged, but, unfortunately, I can't test that and my understanding of thermal wheels is limited.

Q So if it's a-- your theory is built around thermal wheels, in essence?

A Yes.

Q So what I want to do now is to look at the events that then flow on from November 2019, but before I do that, I wanted just to effectively touch in about

your earlier evidence yesterday about the executive control group.

A Yes.

Q Although there wasn't such a thing at this point, what level of executive control was happening around the decisions around decant and what was to then happen in the future about the rebuild of Ward 2A? Who was in charge of that process, as far as you understood it?

A So, at the time around the decant, the person who was most visible to me was Grant Archibald, the chief operating officer, and, in fact, he attended IMTs. I had also attended a meeting with the chief executive, Jane Grant. So, at that time of the decant, to me, those two individuals at that level were involved, with other directors as well, the medical director, women's and children's director.

Q So once we're getting toward the winter and into Ward 6A, what was, if anything, the issue with the drains in Ward 6A?

A The drains were inspected before we went in and there was a regular-- there weren't the same issues in Ward 6A with the drainage that we saw in 2A and we put in place a regular drain cleaning program to mitigate the risk. So, as far as I was concerned in 6A, at that point, there was no issue with drains.

Q Right. I'd like to move on to a side issue of Ward 4C.

A Yes.

Q So get away from the 6A and the haemato-oncology patients. Who are the patients in Ward 4C at this point of the winter of '18/'19?

A So 4C was a combination of two different groups. You have your general haemato-oncology. So, within that, you have some patients who have neutropenia, not all, and the other half of the ward was renal transplant.

Q So, for completeness, you describe this in some length from paragraph 372 on page 125 of your statement. I'm not going to go through it in detail. What I just want to ask you is the question of neutropenic patients.

A Yes.

Q So, I'm right thinking you had a meeting with Dr Hart around about December 7 2018?

A Yes.

Q Do we see a note or an email exchange about that in bundle 27, volume 7, document 20, at page 378? In a sense, this is an email from you to two people in Estates, so Ian Powrie and Andy Wilson.

A Yes.

Q Now, I wanted to firstly note in the middle of that third paragraph down, you've recorded that you've taken the view that there should be six air changes

now at positive pressure in HEPA-filtered rooms, and you've given some explanation in the previous paragraph. Now, the confirmation with Peter Hoffman, is that in the email exchange that we looked at previously or a separate email exchange?

A That may have been separate.

Q But, in any event, this is your opinion?

A It's my opinion.

Q Yes. Now, I want to go towards page 375, and I wanted to understand something about a reply that you received from Dr Hart. So if we look at the bottom of that page, he replies to you on 6 December 2018. You asked him three questions, which we actually see on the previous page, and he said that they constantly have patients with a recent history of neutropenia. Am I right in thinking, for completeness, that he's only talking about, as it were, his part of the patient cohort, not the renal patients?

A Yes, that's correct.

Q Right. Now, if we can take that off the screen, you then produce an SBAR, which is bundle 4, document 38, page 156, but this is in July. Why does it take you so long to produce your SBAR?

A Because there was a lot of discussion about what could be done in this area, similar to previous discussions

around the ductwork, the HEPA filtration, the challenges of trying to upgrade such a facility. Between, I think, December and July, I was working on the specification for Ward 2A, meeting with Matthew Lambert, Estates colleagues, project managers, as to what was achievable, and it became very clear to me that, in fact, what I had been told much earlier around ductwork and air handling was, in fact, achievable.

Q That you can get to six?

A At least six, possibly higher. This was a minimum spec, so what I've put here is not the actual specification, but it's the minimum acceptable, and I was told previously that we couldn't do that, and obviously with 2A and what transpired, it actually-- it was possible.

Q But in 2A they had to fit a whole new air handling room?

A Yes, so the phrase I was told at the time was, "If you have enough money, you can achieve anything."

Q Well, I appreciate that, but if we just do the comparison, because this seems to be the point you're drawing. 6A is in the tower-- Sorry, 4C is in the tower. It's on the fourth floor. There are wards above it and there are wards below it. I'm right there?

A Yes.

Q 2A is on the upper floor----

A Yes.

Q -- an upper floor in the children's hospital, and there was a void space above it, which wasn't in use, and it now contains a whole air handling room.

A Yes.

Q Yes, so would it be fair to say that it was possible to do what was done in 2A, partly by the application of lots of money but also because there was the space to put a special, bespoke air handling plant in that void space?

A That's possible.

Q It's quite a big void space. Have you been in it?

A No.

Q No. It's worth saying I've been in it and it seems quite a big space, but what do I know? I'm only a lawyer. But the reason I wondered is, is there an equivalent space near 4C you could put a bigger air handling unit?

A I'm not aware of that, no.

Q No. Was that something that was being discussed in terms of the possibilities of what could be achieved within the building envelope in those meetings?

A No. I was simply told by Estates colleagues to tell them what I felt would be the minimum requirements and that then we would look to see whether that could be achieved, but I didn't have knowledge of voids or air handling units

at that time.

Q Are you aware of whether this 4C upgrade that you've set out in this SBAR has been done?

A Up until the point I left, it hadn't been done.

Q Now, at some point, I think you had a meeting with Professor Steele on 10 December 2018.

A Yes.

Q You explain in your statement that you-- in the meeting, that-- Well, how did the meeting go?

A Initially, it was a meeting to catch up about water, so that part of it went well. Then, we moved on to ventilation and, at the time, I was struggling to get information from Estates colleagues. So, by this point, I was aware of the Innovated Solutions Report.

Q For 2A?

A Yes. I was aware that the findings of that had implications for elsewhere in the building. I was starting to look at other areas in the building and I was trying to get information around pressures, and I think H&V Commissioning had come in. There were reports. I wasn't getting the information quickly enough, so I was bringing the issues up and I was trying, at that meeting, to get an indication from Mr Steele and others as to whether the arrangement in 2A was throughout the

rest of the hospital.

Q The original arrangement in 2A?

A Yes, so this abnormal ventilation system that the Innovated Solutions Report describes.

Q Because isn't the abnormal ventilation system that the Innovated Solutions reply (sic) is the same one that you had discovered in 2016 as a result of Mr Powrie's email?

A No.

Q Why not?

A In 2016, that was tears in the ductwork of the bone marrow transplant rooms.

Q No, there was the email we discussed yesterday in May 2016 in which Mr Powrie explained that there'd been a derogation from SHTM 03-01 to the air change rates that applied to, initially, you thought, all wards in the adult hospital, and then you realized that it applied to the children's hospital. We talked about it yesterday.

A Yes, no, this was different for me because this was a concept of thermal wheels, which I'd never heard of----

Q I see.

A -- and an abnormal ductwork distribution.

Q So it's a different form of abnormality?

A So, in my mind, that was a very different form of abnormality than the sort of air change rate in the room.

Q It may just be me, then. So you're having the discussion with Professor Steele about the abnormality around thermal wheels and ducting. Has anything else arised at the meeting that's remarkable?

A Well, yes, because I told him that I was working on this SBAR for 4C and that I would be sending it to him, and he said to me that he didn't want things in emails because that meant that they were "out there," and I said to him, "Well, that's not how I work. I work with a written record and I will be sending it," and he suggested that I print it off and hand it to him.

The other comment that he made was that I shouldn't be promising clinicians anything, and-- Well, I think this is important, because when you're designing facilities, clinicians need to be at the very heart of it because they understand the patient group.

So, at the time, that's what he said to me, and at the same time, I had another director from another service-- I was in communication with infectious disease physicians about their concerns in level 5, and that director said to me, "These are my clinicians, you shouldn't talk to them."

So, at that point, I felt I was receiving, not just from Mr Steele but from others, resistance to what I was trying to do, which was to get a deeper understanding of that ventilation system. There were multiple issues all coming to a head, which I later then went on-- I think, after this meeting, put in an email to Dr Armstrong and then Mr Walsh.

Q Did you make a note after the meeting?

A I did, actually, because I was really concerned with what he said and I wanted a record of it, and I typed it up.

Q So that would be bundle 14, volume 2, document 103, page 258. Now, we've read the note and, indeed, it's been included in Professor Steele's document list for Friday, and so what I really wanted to understand is, was there eventually some form of meeting between you and him to attempt to resolve any differences between you?

A The meeting came about because it was recognised that there needed to be closer working with Estates colleagues, so the basis of the meeting was to try and improve communication and the flow of information. This note did actually then go on to feature at the meeting, but the meeting was not about this note specifically.

Q I see. This meeting you're talking about was chaired by Dr de Caestecker?

A That's correct.

Q And would have been in March 2019?

A Yes.

Q Do we see a minute of it at bundle 14, volume 2, page 400?

A Yes.

Q Now, I absolutely appreciate that-- I don't want to get into the details of the meeting because we can read all the notes and we can read all the emails, but Professor Steele maintains that you-- despite an agreement at this meeting that you would share the reflected note with him, you did not do so. Did you eventually share the reflected note with him?

A I did. My action from the meeting was to share it, and that has-- he confirmed receipt of the note in an email and I have submitted that email to this Inquiry.

Q Is that bundle 14, volume 2, page 409?

A Yes.

Q Where we see, "Teresa, thanks for the email and also the personal note," from him?

A That's correct.

Q On 18 June. Now, the reason I want to just check – because there might be some confusion and I'm going to speak to him on Friday and I don't want to

minimise the area of doubt – the note that you sent him, is it identical to the note you submitted to the Inquiry?

A It is the note.

Q You didn't edit it in any way or make a shorter version?

A Absolutely not, no.

Q So the full reflective note that you wrote soon after the meeting in November is the note you sent him in June?

A Yes.

Q Is there any particular reason it took that long to send to him?

A Because the minutes of the meeting and the actions took so long to come to me.

Q So, you waited for the actions before you acted?

A Uh-huh, yes.

Q We can take that off the screen. I want to look at an email just now. I'm just going to get it on my screen so I go to exactly the right page. Yes, an email that you have provided to the Inquiry, which is of 6 December 2018. So it's bundle 27, volume 9, document 28, page 441.

Now, what is this? There's an email to you from Dr Armstrong at the top, but also there's a thread that goes down, and the bottom of it, this page, there's an email on 6 December 2018 from you to Dr Armstrong copying in Tom Walsh, and

he's replied to Dr Armstrong bringing in Tom Steele and Sandra Devine. So, if we look at the email at the bottom of the page, what are you trying to achieve by sending this email? What's the context?

A So, in this email, I'm basically writing directly to the HAI executive lead to make her aware that I have several concerns about ventilation, a number of issues where I felt there would be a benefit from having oversight and a project manager to really prioritise the issues and direct the resource. I felt at that point, for me, as an infection control doctor, there was a lot needing done and that there needed to be more of a sort of strategic plan by the organisation to deal with the issues that I've listed.

Q So, the first one at the bottom, when it goes one, this is in the second-last paragraph, seven lines to the bottom of the page, "Following the 2A/2B..." is that the Innovated Design Solutions Report?

A Yes.

Q Is this the abnormality that you and I just discussed?

A Yes.

Q Right. Then, over the page, you describe an immediate need for clinicians state, IPCT unsound and the ventilation setup.

A Yes.

Q Now, the second one, what's this meeting that happened the day before?

A So, this is in relation to the upgrade of the negative pressure rooms in the intensive care unit, so----

Q That's 5C?

A No-- Well, it's the rooms that are used by 5C----

Q Down on the third floor?

A -- but they're in the intensive care unit. That was the output from the SBAR that I wrote on that issue.

Q I see, and 4C is presumably the discussion we've just had about----

A Yes.

Q This is an email you sent-- Right, and then there's endoscopy units as well, so you're basically listing a series of problems?

A Yes.

Q Right. Now, the first thing, because obviously it's an issue I'm interested in, is why is the general air change rate issue not discussed on in this list, of the general ward?

A I think, if we-- Could we go back? Sorry. To the first point.

Q The previous page, the bottom of the page.

A So, although I haven't mentioned specifically air changes, I am talking about the 2A/B report and the findings from that, which I believe, at the

time, were evident, you know, including executive level within the organisation, so I think that's why I haven't mentioned that.

At that point in time, the air changes and the issue with the air changes were well known, but my concern primarily here was the pressures in the room, particularly in the Infectious Diseases Unit. That's where I saw the main risk at that point in time because I was concerned about patients with airborne infections being in a positive pressure room and, in my view, that that put staff or visitors in the vicinity in the corridor at risk. So I'm escalating that as a priority at the time.

Q Now, you've covered this in a lot more detail from paragraphs 348 to 391 of your statement. I just wanted to understand what difference would have having this group made in the following 12 months and time after that if it had actually been set up?

A I think that it would have given ventilation a focus. I think we would have been able to work through the issues, prioritise some over others, potentially. As I said, there's a limit to what I can achieve and get people to do because I have no remit over other departments and resource allocation and that sort of thing, so-- and it would be to keep things going because, in the position that I was

in at that time, I felt like I was continually having to push, continually having to send emails to get things done.

But if you have a situation like that project managed, you get very detailed timelines and, you know, goals that you have to achieve by a certain period of time. So, I felt that having that process in place, we would actually be able to make some changes in a timely fashion.

Q Okay. Now, what I want to do now is to turn onto the Cryptococcus and its IMT. I don't know how quickly we can do this because there's a lot of material in your statements. It's the whole of chapter 13, and I think probably what I want to do-- No, there's no need to go to the index, it's fine. What I probably want to do is to look at a few issues sort of grabbed out of it for context.

The one issue that sort of stands out in my reading of chapter 13 is your concern that there was some debate or uncertainty at the information you were receiving about whether there were-- there was pigeon waste or pigeons or dead pigeons in----

A Yes.

Q -- all as opposed to one of the level 12 plant rooms. Now, I want to make sure that I've got all the information that you are pointing to, and I can discuss that with Professor Steele on Friday. So, the first thing is if we could just check

some photographs that we think came from you, which is bundle 27, volume 2, document 19, pages 34 to 42. Next page. Now, stop me when you recognise one of these pictures. Is this your picture?

A Yes.

Q Right, so we've seen these before. I'm not promoting to go through them again. It's just a process of checking that I've got them all in them. Which plant room is this, from your recollection?

A So, at the time, I went to the plant rooms with Colin Purdon very early in the incident. I have no idea which plant room this is; we went into more than one. There was so much confusion at the time as to what the plant room was, which area that it served. For me, at that time, I just wanted confirmation of what I was being told, that there was pigeon droppings in plant rooms.

So I remember going into two, and then I remember handing it over to colleagues to do more work, so one of my colleagues went into-- I'm not sure how many he went into, but he took samples. I had a biomedical scientist that came along and did air sampling, I think, from all of them, so-- and I think Dr Peters may have been in them.

So there were other people giving me accounts of plant rooms, and around

the same time – because it was very confusing around, you know, which plant room serves which area – Darryl Conner was tasked with developing a map which later came to me, and he had highlighted in orange the different plant rooms and where the pigeon guano was predominantly. Now, there was one plant room where there was more than others, but the other three plant rooms did have, according to his map, guano in them as well.

Q How long did it take you to get his map?

A I didn't get it immediately. I was concerned that it had been available and didn't come to the IMT. It was discussed at the IMT, but I got it after the IMT. That would have been end of December.

Q Right, because there's also a suggestion that you have a difference of opinion with Professor Steele about whether more than one plant room is affected, and there's an email exchange between you and him on 21 December: bundle 14, volume 2, document 104 page 270.

Now, you've just described this access to the plant rooms in this email at the top of the page 270, and he's reporting in the email that he sent to you on 21 December that:

> "The plant room that covers 6A is not one that has any contamination, and the others that show the most don't cover Ward 4. I have asked for photographic evidence as well as video evidence if available in all areas."

Now, I just get the impression that you're not comfortable that that's accurate, from your statement. Have I got that right?

A Yes. I wasn't comfortable based on speaking to colleagues who'd accessed more plant rooms than I had and based on Darryl Conner's work, and the second part of that, "the one that shows the most doesn't cover Ward 4," it's not really about being the most. It's just, is it present or not?

Q I have to say, I'm completely thrown by the fact that you didn't-- weren't able to rapidly work out which air handling unit serves which plant room-- which ward. The reason I'm thrown by it is I've been in those plant rooms and I've seen how big they are and I've seen how confusing they are, and I'm wondering why there's not a label on each air handling unit saying, "This serves Ward X." Are you saying it took some time to work out which air handling unit was which?

A Yes. When I went to the plant rooms with Colin Purdon, I didn't know

what plant room I was in and what area it was serving, and neither did he. It seemed to take some time to get clarity on that.

Q So if we look at some information that you, I think, are maintaining you didn't have when it was first available. If we can go to bundle 14, same bundle, page 290, and this is on 9 January. Is this you trying to find out whether there were photographs taken before the plant rooms were cleaned?

A Yes, because at that point I had in my possession a report from GP Environmental and it was a very strange report. It reported----

Q Well, is it this report, which is at page 4-- is it at bundle 14, volume 2 page 458?

A No, it's not that report.

Q Okay, then we'll go back to page 290. Please continue.

A So, it was a report from their inspection at that time. Various different plant rooms. Each of the plant rooms, they had provided photographic evidence of what they found, and at the point that it got to level 12 in the report, at the bottom, there was a description of pigeon guano that they had seen, quite a detailed description, but there were no photos and it struck me as extremely odd that every other plant room had pictures to back up the findings, but the plant room that had

the pigeons and the most significant issue within it had no photos, and----

Q Is this at page 445 of the same bundle?

A No, that's something different, I think.

Q If we scroll down a bit further, where the entry for the level 12 plant room is?

A No, that's not the report.

Q No, okay. Go back to page 290.

A It had plant rooms in the 40s as well. There were other plant rooms that they had inspected on the site.

Q Were you eventually sent some pictures by Professor Hood some years later, which is the same document-- bundle, page 449?

A Yes, that's correct.

Q Over the next page. Next page. These pictures, are these the ones that came from Professor Hood? Do you know when they were taken?

A I don't know when they were taken. They were forwarded from Estates colleagues to Professor Hood later on during the advisory group that he was chairing.

Q We can take them off the screen. So, firstly, I think it's probably important that we do actually work out exactly which report you're taken to. So when you've completed giving evidence,

would you please let your legal team know which it is, and we will add that to documents we can put to Professor Steele?

Now, could it be that what actually is happening here is simply a confusion, in that people are describing things that exist in the world with words, and some people are describing them with words that minimise their significance, and other people-- you see that as somehow suspicious, when it's just the way things are being described? Is this actually a failure to report or actually more just a failure to describe?

A My concern at the time and very early on in this incident – within days – was that there was a move to take this away from the plant room being the issue. That's how I felt.

THE CHAIR: Sorry, could you just repeat that, please? "My concern was there was a move----"

A To take the focus away from the plant room.

THE CHAIR: Right.

A I felt that information wasn't particularly forthcoming. I felt people were holding back things. I felt there was an attempt to put other hypotheses forward that were not as plausible and remove the focus. I wasn't alone with that because there were other colleagues of mine covering over weekends and some of the days because this was around the festive period, and we just felt that there was more to this.

It's quite hard to explain that we were not being given all the information. I found it really difficult to believe that there were no photos available of what was described as an infestation and that took 11 men to clean up, and I felt somehow----

MR MACKINTOSH: Why do you say it took 11 men?

A It was reported to Dr Peters and it's in an email from Dr Peters that it was 11 men to clean it up.

Q Ultimately, we'll get to Professor Hood's report and conclusion in a moment, but whatever view you take about its merits, it does consider the plant room as a hypothesis.

A Yes.

Q And your IMT considers the plant room as a hypothesis, so whatever was going on to try and exclude the plant with that hypothesis, that didn't work, did it? I mean, the hypothesis was considered for some time.

A Yes.

Q You'd accept that?

A Yes, I accept that.

Q Right, and whilst you ended up with criticisms of the significant critical incident documents that are produced about the two patients who unfortunately

die, the original drafts of those documents talk about the plant rooms, albeit that then you complain that the drafts are changed. You're nodding again.

A Yes.

Q Yes, so if there was an attempt to minimise the involvement of the plant rooms, we don't see it in the outputs of your IMT, the input into Professor Hood and at least the early drafts of the SCI, do we?

A No, but I believe we see that elsewhere.

Q So where do we see it?

A We saw it in our report to the Board where it was stated that the plant room hypothesis had been ruled out, and we see a response to that from Dr Hood at the time, objecting to that response. We then see, a bit later on, the independent review, who appear to have interviewed one individual in relation to Cryptococcus. It was not Dr Hood and he was very upset when that report was published. He phoned me twice at the time. He used the words “cover-up” and he said he was going to go to the media. I discouraged him from going to the media. I told him to go to the Cabinet Secretary instead. I know he didn't do that, so----

Q But he's not able to give evidence.

A He's not able to give evidence, but certainly all the way through this and post independent review report there was a feeling that information was being concealed and things were being covered up, and I was told by a senior member of staff that plant room photos, cleaned-up plant room photos were sent to the Cabinet Secretary to provide reassurance.

Q By which member of staff?

A An occupational health colleague.

Q So how would an occupational health colleague know that?

A Because they sit quite high in the organisation at committees, potentially. Well, I don't know how they know that, but with all of that, colleagues telling me it's a cover-up and other colleagues talking about this----

Q Yes, but ultimately, we have to deal with evidence.

A Yes, sure.

Q In terms of the evidence we have, the evidence we have is the absence of photographs before the clean-up, and that's one of your pieces of evidence, yes?

A Yes.

Q A GP environmental report that doesn't contain photographs of those plant rooms, but contains photographs of other plant rooms?

A Yes.

Q And the questions that were being asked in the IMT by people, including Professor Steele, and that's about it in terms of evidence at the time? Would you accept that's the contemporaneous evidence of people trying to minimise it?

A At the time, but then during John Hood's investigation, pictures of dead birds come to light from just a couple of weeks earlier, which we hadn't been told about.

Q This is before the Cryptococcus cases were identified?

A It may have been before the child. I can't remember the date of the adult, and that's relevant in the timeline when you're investigating these cases, to know the history of that plant room. So no one told us that just a few weeks before dead birds had been removed, and I found it hard to believe that the colleagues around the table were not aware of those reports at the time.

Q Well, what I'm going to do is move on. I think we'll probably ask you for the name of that occupational health person after the hearing and decide then what to do about that. In your statement, at page 28 on paragraph 62, you describe in-- I suppose it's a summary section, in a sense, that during the Cryptococcus IMT:

> "[You'd] never experienced the undermining, lack of respect, and continual challenge I experienced during that incident."

In what way was this a change from the previous IMTs that had happened up until this point?

A It was a stark contrast. The previous IMTs I'd felt really well supported, I felt everyone was on board. There was challenge and debate, which is typical of IMTs, but I always felt that it was respectful. I hadn't encountered this sort of atmosphere in an IMT up until that point, and that goes right back to 2009 when I started chairing them.

Q Why do you think that change happened?

A It seemed to me-- you know, the water incident, I felt very supported. I felt that patient safety was the absolute priority during that. Everyone worked really hard, and then when this came along, it seemed to be a shift in priority. I felt that there was more focus on organisational reputation rather than patient safety. I felt that people would have been very happy if, at the beginning of that IMT, I had said, "These are two cases of reactivation. We need to do no more."

I did not feel that there was any appetite to investigate this, put suitable control measures in place and get to the

root of the problem. So I felt that, at this point, organisational reputation was starting to feature with the nature of the questioning and some of the alternative hypotheses that are being put forward.

Q What I want to do now is to move on to the decision to decant the Ward 6A patients to the clinical decision unit, which you cover from paragraphs 710 to 713 of your statement at page 234. Now, what I want to understand is that there seem to be some-- more than one meeting going on here, and I'm trying to break this down. So firstly, if we look at paragraph 710 onwards, you've described how various people behaved and different meetings.

A Yes.

Q There seem to be two meetings. So the first thing to ask is, did you ever receive any sort of feedback or comment from Dr Armstrong about the decision to decant to the CDU?

A I can't recall if she was at the IMT, but if she wasn't there, Dave Stewart was there, and everyone was in agreement at the IMT.

Q Right, so the IMT is, in your view, of consensus it needs to happen?

A Yes.

Q Right, and then there's a meeting that follows that, attended by you, Mr Hill, Professor Steele, Jamie Redford and Jennifer Rodgers?

A Yes.

Q Yes, and that's what you described in 710. What was the substance of the meeting and what were you asked to do?

A So, when I went to the meeting, they explained that the chief executive was going to be on the site at 4 p.m. and she wanted to have a look around Ward 6A. They told me that they didn't feel that the decant was necessary. There was mention of me being risk averse and me being----

Q So this is after the IMT?

A This is after the IMT, and maybe that we could do this work with patients in the ward, which to me was too big a risk because of the release of fungal spores. So I basically gave my opinion that no, I felt that a decant needed to happen.

Q Then did you eventually have a meeting with the chief executive that you described in 711?

A Yes, that was around 6 p.m. that day.

Q Who was present at that meeting?

A So chief executive was there, Tom Walsh, Sandra Devine, Brenda Gibson, Jennifer Armstrong, Alan Mathers. I remember Jonathan Best, maybe Jamie Redfern or Kevin Hill, Jen Rodgers.

Q Because you describe that you didn't feel you received-- you were not backed up by Mr Walsh and Ms Devine. You say they didn't disagree with you. How do you know they're not backing you up? What do you mean by that? Because it's not really very clear in the paragraph 711.

A So, it felt to me that there were a cast of thousands at this meeting, lots of people at this meeting, and really the conversation was just between myself and Jane Grant. Nobody else was really participating or giving a view as such, and normally, what I'd experienced previously in the infection control team is we were quite cohesive and that we would back each other up, and I felt that that wasn't happening at this meeting. I was backed up by Jennifer Armstrong, and also Jonathan Best did support what I was saying. I suppose I would have expected to have that reassurance from the IPCT.

Q Obviously we're not going to-- The fact that someone didn't speak up in a meeting in this context probably isn't hugely-- The reason I'm asking is not because this meeting is, in essence, particularly important for the point, but are you trying to draw some point about the relationship between you and the other members of the IPCT senior management team?

A Yes, so I think around the

same time as I described that shift in culture, there was a shift in their support of me as well.

Q In what way and how did they evidence it, apart from this meeting?

A I felt that they were not really supporting me as much as they had in the past in terms of, you know, trying to get things done. If we compare it back to the situation with Ward 4B and the options appraisal, they were very supportive at that time. They were very vocal. They were in agreement. They were happy to express that. They seemed to me behind the scenes at our meetings to be supportive, but it seemed to me that they weren't either able or willing to vocalise that, which, at the point then, made me feel that I was a lone voice.

Q Now, I'd like just to briefly touch on the-- finish up this topic of Cryptococcus today by turning to the Cryptococcus IMT expert subgroup, which you cover from paragraph 719. Tell me, just to be clear, in a sense it was your view that you shouldn't be on it, is that right?

A No, so the reason I wasn't on it was workload, significant number of incidents at the same time, and John Hood had been freed up from Glasgow Royal to provide some support. He obviously had an interest in ventilation,

and also Christine Peters had a lot of experience in ventilation and had been helping me with Cryptococcus. So, at that time, based on workload, I delegated that group to them.

Unfortunately, Dr Peters went off sick and John Hood took over. It was a bit later on in that there was a suggestion that I should remain independent from the group because John Hood-- According to the terms of reference, this group reported to the IMT and would be directed by the IMT.

So John Hood would have meetings with me and he would send me the minutes of emails, and there came a point where there was a suggestion that I had to be independent and all of that interaction was to stop, although he did continue to speak to me.

Q When was that point when it was suggested that you needed to be independent?

A That was around January. I remember receiving a phone call from the medical director, saying to me, "I think it's really important that you remain independent from this group," that she had spoken to Mr Steele about it. Then, a bit later on, there was an instruction from the ICM. She told me that I shouldn't be talking to Dr Hood about these things because it could be construed that I was influencing him in some way.

Q I mean, as lawyers, we're quite used to the idea of not influencing people. That's one of the problems that we have to deal with. Have you ever come across a situation in Infection Prevention and Control when someone's been told not to influence somebody else?

A Never.

Q What possible reason can you think of for that instruction being given to you?

A Again, I think this came down to an overwhelming urge to make this not about the hospital and to find another reason for these infections. Again, I felt it was coming down to organisational reputation.

Q So there's two issues I want to ask about the report because we can read it and Mr Bennett, the Inquiry expert, has reviewed it and written a report, and we'll deal with-- he'll take his evidence from it. We've heard some evidence from Mr Hoffman, we've heard evidence from Annette Rankin, from Susan Dodd. We've heard evidence from lots of people. Professor Steele will give us some evidence, too. I get the impression from your statement that you're of the view that none of the members of the group were actually experts, including Dr Hood. Was he then Doctor or Professor?

A Doctor.

Q Dr Hood or Mr Hoffman were actually experts on Cryptococcus?

A Yes.

Q Why do you say that?

A Very few people in the UK are experts on Cryptococcus. It's incredibly rare and it's something we rarely see. They have other expertise – ventilation – but not Cryptococcus.

Q So I'm wondering why it's called an expert subgroup, because its membership – I won't go to the screen – is relatively large, it consists of a couple of ventilation experts – Dr Hood and Mr Hoffman – it consists of some representatives of NSS, an awful lot of Estates and Facilities people. Why was it called an expert subgroup?

A So, at the beginning, in the email that I send to John Hood and Christine Peters, what I'm asking them to do-- what I'm saying is, "We're never going to find the answer here." I wasn't saying it was a plant room. I was basically saying, "With the passage of time, we do not know what event took place. There are various different hypotheses. What I'd like you to do is work through those hypotheses, make sure we haven't missed anything and ultimately make sure that we have got the protective environment in place for those patients."

So, that was the task of the group.

So, essentially it was, at that point, more about ventilation. Have we got this right in terms of the level of protective ventilation for patients? And they were experts in ventilation: Peter Hoffman, John Hood, Christine Peters.

Q But it wasn't that they were experts in Cryptococcus?

A No.

Q No, and presumably you're aware that NSS ultimately distanced themselves from its ultimate conclusions?

A I am aware of that.

Q Now, I think you've probably almost answered it in your last answer, but I think I should check: what's your opinion of whether there was a connection between the ventilation systems that supplied Wards 4B and Ward 6A and the Cryptococcus infections that the two patients who [redacted] incurred? Do you an opinion of whether there's a link?

A I think there's a strong possibility there's a link. I mentioned yesterday when dealing with outbreaks, we think about probability. On the one hand, we potentially could have two patients who had reactivation of Cryptococcus at the same time. Very rare infection. On the other hand, we can have two patients with an epidemiological link in time, place and person, linked to a building where there is evidence of

pigeon guano in a plant room and other areas.

Not just that, patients who are not in a HEPA-filtered environment and furthermore patients who were not on appropriate prophylaxis at the time for various reasons. So, in terms of the balance of probability, I believe there's a very strong probability that these patients acquired Cryptococcus from the building.

In terms of whether it was the ventilation, the plant room or other areas, that is less clear, but the plant room is the part of the hospital that is housing all the air handling units. And the conditions in the plant room, it's dark, it's like a loft, you know, Cryptococcus will proliferate in that sort of environment and we had evidence of the pigeon guano.

Q So what would you say----

THE CHAIR: Just a moment. In that explanation, Dr Inkster, you began by saying there was a “strong possibility” there was a link. Later on in what you said there was a “strong probability.” Now, you may not have attached particular importance to these words; lawyers see a difference between possibility and probability.

A I would say probability.

THE CHAIR: You mean probability?

A Probability, yes.

THE CHAIR: Thinking about possibilities just for the moment, as I understand it, pigeon droppings are a possible source of the Cryptococcus spores, but there are other possible sources, am I right?

A Well, the other sources that have been quoted are in relation to different species of Cryptococcus which is found in the tropics, and, yes, it is found in trees, but we don't have that here in the UK.

THE CHAIR: Well, I think I've picked up from somewhere that we're talking about Cryptococcus neoformans.

A Yes.

THE CHAIR: Right, but a possible source of that is in vegetation, soil. Am I wrong about that?

A No, that's possible as well.

THE CHAIR: Right, and if we think about pigeons, my understanding is that there are a great number of pigeons, not only in the plant room-- Well, sorry. I'm making an assumption here, that the outside environment of the Queen Elizabeth campus contains many pigeons.

A Yes.

THE CHAIR: Right. Now, maybe you've answered this already, but what do you see to be the importance of pigeons or pigeon guano in the plant rooms as opposed to pigeons and pigeon guano in the wider environment of the

hospital campus?

A It's because of the presence of the ventilation systems in the air handling units and that, in my mind, is a route to both of these patients by which there may have been a significant dose or bolus of Cryptococcus in that ventilation system. There are obviously a lot of pigeons around the site. It is possible they came in via another route. No building is completely sealed.

The theory that people might bring this in on their feet-- I suppose, for me in outbreaks, we're always looking for things that have changed. So that might not be a new phenomenon, and I think Mr Hoffman maybe described this better than me but by the time that someone has stood on that outside and made their way up to a ward, it's going to be perhaps more ingrained in the shoe or fallen off and there isn't that same mechanism of releasing Cryptococcus into the ventilation system, in my view.

THE CHAIR: I no doubt should have picked this up before, but is the inlet or the-- Is the source of air which the air handling unit-- which is essentially just a fan, as I understand it. Is the source of air within the plant rooms, or is it external to them?

A It's brought in externally, but the route from the plant room into the ventilation system-- there's various ways

that it could have reached the ward. I'm not sure I'm explaining this properly. There are other areas, like through the void and risers, that I believe the pigeon guano could have reached the patients.

THE CHAIR: Right. So I shouldn't just think in terms of proximity to the----

A No.

THE CHAIR: -- inlet of the air handling unit? Right, thank you. Sorry, Mr Mackintosh.

MR MACKINTOSH: I think I have one remaining question before we take a coffee break, my Lord, which is simply-- I'm assuming you have read Professor Hoffman's report.

A Yes.

Q He has reached a different set of conclusions, and I recognise I've now put you under pressure with the suggestion we're about to have a break, but why is he wrong and you're right?

A As I've said before, very early on, we don't know the answer here. We're never going to know the answer here. That wasn't the aim of the group. The aim of the group was to make sure that this wouldn't happen again, that we had covered all possibilities and didn't find any particular reasons for the ingress that we had missed, and most importantly to make sure that the most vulnerable group of patients were protected from any further risk of Cryptococcus.

Q That didn't answer my question. I realise he wasn't originally asked by you to work out an answer, but he did, by the end, look at various hypotheses and grade them, and the hypothesis that-- sort of the case theory that you've just posited is one he considers to be-- well, he doesn't consider it to be very probable or probable. Why is he wrong in his analysis and you're right in yours, even though he was asked to do something different because presumably what he did changed over time?

A Again, for me this goes back to the basics of outbreak management and I'm not sure that the epidemiology was properly considered by the group because there were other cases and none of that was part of the expert advisory's role to look at that. So whilst he might have reached that conclusion, it wasn't reached in conjunction with all the available facts at the time.

Q I suspect we could probably continue that topic for a lot of time, but we probably haven't got the time to do it in any more detail, so I would suppose now is the time to have our break.

THE CHAIR: Right. We'll take our coffee break. Can I ask you to be back for 12 o'clock, please?

(Short break)

THE CHAIR: Mr Mackintosh.

MR MACKINTOSH: Thank you, my Lord. I wonder, Dr Inkster, if we can look an email exchange between you and Dr Armstrong on 5 February 2019, which is in bundle 14, volume 1, at page 779. So this is you listing various concerns you have about the workload of your team.

A Yes.

Q If we could just zoom in at the top half of the page, please, it'd be helpful. No, no, 779. Just the top part of the half of the page. If we could just zoom in across. Thank you. So what was the reason that you contacted Dr Armstrong on 5 February that prompted this response?

A So, at that point, I felt that the workload was becoming quite extreme. So this was not normal ICD workload that I was experiencing: various different incidents, some of which relate to the Queen Elizabeth, but others across the whole of GGC.

Q So if we think of your ten sessions, and I appreciate at the time you had five-- still had five for Infection Control at this point?

A On paper five, but at that point I was doing ten.

Q Ten. So when were you doing

your microbiology work?

A Well, I wasn't at that point, very rarely. I spent maybe one morning a week, if that, in the microbiology duty room.

Q So what is it that you are asking for at this point?

A Basically help, extra resource, extra ICD resource and people who were experienced to come and assist me with dealing with all the issues that were going on, which were outbreaks and ongoing issues with the building. At the time, I recall my colleague, John Hood, coming across because he had been freed up to help and he said to me that, you know, "You're doing the work of four people here and that's not sustainable. It's only really sustainable for two weeks."

He was a very experienced infection control doctor and we had periods of extreme intensity. We had one afternoon where we had contaminated water results to deal with. We had an outbreak-- an IMT that had to be set up on a Friday afternoon, which is never a good time, with multiple actions from that, and one of my other colleagues was coming under pressure to sign off an intensive care refurbishment on a Friday afternoon.

So we had two or three hours of very intense workload and I was fortunate to have colleagues around to support that, but that was not unusual to have several things happening at the same time and it was basically asking for help.

Q When you say “colleagues around,” were these colleagues who had infection control sessions, or were they microbiologists?

A No, so-- Well, Dr Hood wasn't officially an infection control doctor, but he helped support with the ITU project that afternoon, and another colleague, Dr Wright, stayed late and helped me with the actions from the IMT because we had to start a process of screening lots of patients in the laboratory.

Q Was Dr Wright a doctor at the ICD sessions as well?

A Sorry?

Q Did Dr Wright have ICD sessions?

A No, she did not, no.

Q So the thing that I'm wondering here is you received this response from Dr Armstrong, and she's agreeing that the arrangements should be put in place. What were the arrangements that were then generated as a result of this reply?

A So, we had Dr Hood at the time. We had-- An SBAR was produced by Tom Walsh asking for an additional two infection control doctor sessions to help support me, but at the time that SBAR was released, the lead consultant for decontamination had given up his sessions and there were two sessions

vacant. So, all these extra sessions did was just stop me from even more work piling on, if you know what I mean, rather than taking work away from me.

Q So these sessions were the two new ones and the two from the lead consultant of decontamination? Would that mean-- do you enable-- you can bring in an extra person or persons to do those four sessions? Is that how we should understand it?

A No, no. So, I had an extra two sessions, but I had to allocate those to decontamination because the previous individual had resigned, so----

Q Right, so that didn't help you?

A It didn't help me because that was just-- it stopped me having additional workload at that time, (inaudible)----

Q Right, but the two extra sessions that Mr Walsh was suggesting, would they have been extra actual----

A No, they were not actual extra. They were used for decontamination.

Q Was there any actual new additional sessions, however temporary, suggested at this point?

A No. So, there was some sort of ad hoc support. On some days, a colleague might come across from Glasgow Royal Infirmary. So on one occasion, one of the doctors, Dr Jamdar, who did have infection control experience, came along for three days,

and that, at the time, was really useful because she was someone who could function independently and just run with things herself, and for those three days, that was big assistance to me, but that was not extended beyond that. Then, we had some discussions about locums, bringing someone else in to support, and then ultimately Brian Jones approached Stephanie Dancer.

Q So when Brian Jones approached Stephanie Dancer, did he have authorisation from anyone to do this, or where did he get the sessions from, effectively?

A Well, I suppose Dr Jones, at that point, was the head of service for microbiology, and with Rachel Green being involved, the clinical director, they would have-- you know, I suppose that would be a decision that they would be able to make.

Q But they'd have resource, potentially, in their world, to use?

A Uh-huh, to, yes, make that happen.

Q But those wouldn't be infection control doctors under Mr Walsh's system, would they?

A No, they would not be.

Q I mean, he's given quite clear evidence in his statement of seeing quite an important distinction between those who are doing infection control sessions

and those who aren't. So, this extra capacity, which turns potentially into Professor Dancer, would that have been as a microbiologist, effectively?

A It would have been as a microbiologist with infection control experience supporting me.

Q Would that person have sat inside Mr Walsh's management structure?

A No.

Q Did that ever become an issue?

A Well, she was only there for two days.

Q Well, we'll talk about why she didn't stay or even come in a moment. Now, she's given evidence. I don't know whether you had the opportunity of watching it?

A I did.

Q Right. Well, we can take it sort of quickly. She produced extracts from her emails and, indeed, she's provided the Inquiry with the actual emails subsequently, but we'll just look at bundle 27, volume 7, page 574 for speed. As far as I can see from the email thread, your first engagement is that you contact her on 12 February.

A Yes.

Q Now, you've heard her evidence, because you've watched it. Up until the point that she discovers she's no longer required, as it were, is there anything that you would say that she's got wrong about the narrative of events: where she goes, who she meets, what she sees?

A No, I don't believe so. I recall giving her lots of background information about the incidents I was encountering at the time. I was quite keen-- Stephanie trained me, basically, and I had a lot of respect for her, and in terms of infection control, she was someone that was ahead of the game, and I was sense checking a lot of stuff with her.

So she got an overview of the incidents at the time, including one that's not part of this Inquiry, and I took the opportunity to take her to that particular ward and some other areas of the hospital that were concerning me. I was obviously concerned about plant room hygiene at the time, so I took her there, and I think I took her to just one of the general wards to show her the layout.

Q Did she meet Mary Ann Kane?

A She did on the second day. She was, by that time, in Dr Peters' office and I recall her meeting with Mary Ann Kane.

Q Right, and was it, effectively, she would have been sitting in Dr Peters' office if she'd arrived and started work?

A Yes.

Q Right, and eventually, she

didn't come.

A Correct.

Q Now, she's given a particular narrative actually in these emails----

A Yes.

Q -- about why she thinks she didn't come, how it was that the-- as it were, the offer was withdrawn at a late stage, and you've heard that. It's not reflected in your statement. In fact, if we go to paragraph 776 of your statement in page 253, four lines to the bottom, you describe:

> "She attended the Queen Elizabeth Hospital for just two days before being told by Professor Brian Jones her service was no longer required. No explanation was given to me for that decision."

Her evidence to the Inquiry was that the information she describes in her emails about Professor Leanord being the reason that she had her offer withdrawn must have come from you because you're the only person she spoke to about this. That's not consistent with saying there was no explanation given to you.

A No.

Q Was an explanation given to you?

A There was no explanation given to me, but I was not aware of Professor Leanord's role in any of this until I received the email from Stephanie that she'd sent to Professor Jones. I wasn't aware-- It was the first time I'd heard the term "Glasgow Boys," and it was the first time I knew about a situation with her and Professor Leanord that is referenced in those emails.

Q So why do you think she's saying that she understood reasons from her conversation? Is she inferring something, or are you missing something from your statement?

Q She must be inferring something. She maybe assumes it was me, but it wasn't me at the time. It was news to me that he had any involvement with it.

Q On the terms of the substance of the decision, the explanation she's given by Professor Jones, which we can find on page-- if we go back to bundle 27, volume 7, we find them at the top of page 578. So, the reason that Professor Jones gives her is that-- we read it in the first paragraph, "I very much regret to inform you," that one, and that there's a proposal to:

> "... restructure and support these services internally, incorporating the two sessions intended to you into a more substantive post to support the

services in the long run. ”

Now, we can't ask Professor Jones what his understanding of this is. What I'd like to understand from you is that-- was the two sessions that Professor Jones was offering a temporary arrangement or a permanent arrangement?

A It was temporary at the time, and it would be dependent on, I suppose, how things progressed and workload issues and whether those eased off, but it was not permanent.

Q It was, effectively, a sort of locum, in a sense?

A Yes.

Q Is there any difference in the timescale it takes for the NHS – NHS Greater Glasgow – to recruit and put in place a more substantive post than a locum post?

A Yes, because there is a procedure to be followed. There is a job description that needs to be written and signed off and approved by the HR department. It then has to be advertised, funding has to be secured. It then has to go to an interview stage. So, generally speaking, it could be as much as six months.

Q Do you think a substantive post of two sessions would attract applicants?

A Highly unlikely to. It's one day

a week.

Q What I'm wondering is that-- how realistic is the explanation that Professor Jones is given as a way of resolving the problems that you were facing at the time?

A I wouldn't say that that was realistic at the time.

Q Why is that?

A Because I know the time it takes to get a substantive post in place, and I know that two sessions would be very unattractive to people who are looking for a substantive post. Most people want to have at least a part-time-- six sessions or more.

Q So you'd need to plug it together with other sessions from somewhere else?

A Yes, you would. I mean, it would probably only attract someone like, say, for example, myself right now in ARHAI, if I felt that I needed maybe to have a day in the clinical setting just to keep up the clinical aspects. So it might attract someone like that, but there's not many people around, I feel, in the microbiology world who would be attracted to one day a week.

Q So you'd effectively have to go and find other sessions and plug them together into a job?

A Yes, you would have to. You'd have to negotiate with other hospitals

potentially or external agencies and try and plug something together. It might suit someone who is retired and wants to come back for a day a week.

Q But would it have made a difference to your problems that you were facing in February/March?

A To have someone present?

Q In a substantive post?

A Oh, in a substantive post? Absolutely, yes.

Q But when would that substantive post have actually started working?

A Well, I know that it didn't start because when I later resign and have to re-jig my job plan, those substantial sessions were still available, and that was at the start of September, and I took those and they were put in my job plan.

Q So you took the two microbiology sessions that were intended for Professor Dancer?

A No. There was, at that point, a plan for a substantive post, but it hadn't been advertised, and because it hadn't been advertised but was in the planning, I was unable to approach and say, "Well, actually, can I take those sessions into my job plan?" Then the subsequent advert that would come out would include my infection control sessions.

Q So how many sessions did you absorb into your job plan then at the end

of the year?

A Do you mean when I resigned?

Q Yes.

A Ten microbiology sessions, so----

Q So you had five before?

A Uh-huh.

Q So you acquired five more in that restructuring, and you're saying two of them came from this process, you think?

A Yes.

Q What I want to do is to take that off the screen and just-- I want to raise the issue of duty of candour which came up. If we can go to page 187 of your statement, please, and if we look at paragraph 547, it seems that 547/548, you're describing how a realisation occurred to you that you probably ought to think about some duty of candour retrospectively.

A Yes.

Q And you discussed that with Dr Armstrong. Are you able to give us a date or even a-- fit it into the chronology of when you would have had that conversation with her?

A I think around February 2019.

Q How does that relate-- Is it before the Dr Mathers/Dr Gibson SBAR, which we're probably about to come to? Before then?

A Yes.

Q What was her reaction to the discussion of the need to-- by you suggesting that you should deal with duty of candour retrospectively?

A I felt that she was very supportive and that she agreed, and that's why she then asked me and Brenda Gibson to go meet with Alan Mathers, and she tasked him with interviewing both of us and he then produced that SBAR.

Q So, effectively, she sent you to create a process?

A Yes.

Q And you did an exercise----

A Yes.

Q -- and that's the SBAR which is at bundle 4, document 36, page 151----

A Yes.

Q -- and in this email of 1 March 2019 at 8.26, at the bottom of the page?

A That's correct.

Q Now, what do you understand to have been the things that occurred as a consequence of this SBAR?

A So, as a consequence of it, I remember having a further discussion with Alan Mathers, and he informed me that there was going to be a review group, and the review group would consist of Sandra Devine, Professor Brian Jones and Ian Kennedy.

Q The events that are the subject of this SBAR occurred while you were on long-term sick. Have I got that right?

A That's correct.

Q Who was acting as leading infection control doctor at the time these incidents occurred?

A Professor Brian Jones.

Q Who was leading infection control nurse at the time?

A That was Sandra Devine.

Q Is there anything we should read into-- Should we be concerned that the review group is the people who were responsible for the infection control team with Mr Walsh at the time of this incident?

A Yes, and I raised that with Dr Armstrong herself. I suggested an independent microbiology consultant from Glasgow Royal Infirmary who had no input into the RHC.

Q Did the review group carry out any work, as far as you know?

A I never saw any output from the review group. I later saw an email from Dr Chaudhury, who I think had not been involved with the cases because she, I think, was appointed later.

Q Is this an email where she reviews the cases and reaches certain conclusions?

A I believe so, yes.

Q Just to put it in chronology, is that an email – I will just give you the date – an email of something like 27 July? Is

that the right date?

A I would expect so.

Q Right.

A Around that time.

Q I won't put it on the screen because it's so heavily redacted it's largely meaningless. Now, are you aware of whether anything was done to deliver any duty of candour information to any of the families involved, in either the SBAR or Dr Chaudhury's review document?

A No, so after Dr Chaudhury's review document, I recall emails from Brenda Gibson, at least two emails, prompting Alan Mathers and Jamie Redfern for a conclusion had these cases been reviewed. I recall her sending emails. I'm not aware that there was ever any duty of candour event with these families.

Q In essence, without trying to-- just trying to stay away from the detail, just to get the governance issues, in essence, is it the suggestion that Dr Chaudhury has concluded that one of the children involved, there is a connection between that child's death and a particular named micro-organism that's associated with water?

A Yes.

Q Was there any other outputs from that particular SBAR by Dr Mathers, the original one in March? Might it be, for example, connected to the epidemiology work that Dr Kennedy does in 2019?

A No, I don't believe so. I think that was already under way and I'm not quite sure how that would have impacted on the duty of candour aspects. I think that was a separate process that we had already started.

Q A separate piece of work, right. It may be I just misinterpreted something that Dr Kennedy said. If we go to your statement on page 330, it's a long way ahead. Now, at that point, you've – if I might say, perhaps unhelpfully – decided to use bullet points rather than the referencing. So it's on page 330 of your statement and it's the bullet point at the bottom of the page that begins, "In September 2022..." Do you see that paragraph?

A Yes.

Q Now, just so we can help find it again, it's in the paragraph-- the bullet points are part of paragraph 1064, which begins on page 326, so it's four pages after that. Now, if I understand this, what's the point you're making in this paragraph?

A So, the one starting in September 2022?

Q Yes.

A So, as microbiologists, if you were the duty microbiologist for paediatrics that day, one of your tasks is

to go through the reference laboratory reports that come back, and then you action those reports, so you give them to the people that need to see them.

On that particular day, one of my colleagues reported a typing result for Stenotrophomonas to the infection control team, and I was copied in as a group of consultants covering paediatrics. The colleague was challenged as to why the sample had been sent for typing and the email said that it wasn't for infection control to deal with.

We would normally-- our procedure would normally be to send any typing results to infection control because usually there's a reason for them, and that might be outbreaks or previous incidents or an organism that we're particularly interested in, and I think there was a discussion about not having a database for Stenotrophomonas typing results. That had been one of the recommendations from the case note review, so throughout our incident, we did not have a robust means of recording all these results, and it was a recommendation, I believe, for that, and that hadn't been put in place.

Then, there was confusion about, actually, who would own the database that had been put together for the water testing results: was it infection control or was it microbiology? I think those were

the issues.

Q The reason I was struck by this is you also mention in your-- in the-- I won't go to the thread because I think it's-- What I'm wondering is, were you able to work out what year these Stenotrophomonas results were from?

A So this would have been September 2022.

Q No, no, this is when they happened, the testing, but do they relate to-- do they in any way relate to the patients in 2017?

A I don't believe that particular result did, but I think there was one subsequently that someone else did that did link back to patients.

Q Right, because that's what I wanted to be clear about.

A Yes.

Q Because if you look at the end of this paragraph, you go:

> "My colleague Dr Peters highlighted that there had been two cases with a striking match [over the page] to one of the patients in 2017..."

So you're not saying that's in this set?

A I'm not sure if that's the result I was referring to or if she was just highlighting the fact that----

Q That there had been another

one?

A And I think her point would be, this is why this is really important and it's why people need to take action when they're sent these results.

Q So your point is that you need to take action and there needs to be a database.

A Yes.

Q There hasn't been, at this point, implementation of the case notes review recommendation.

A That's correct.

Q You're not drawing any other particular conclusion? No? Thank you. Right, if we can take that off the screen, what I want to do now is to move to summer 2019, and I wonder if we can get a feel for what your working relationships were at the beginning of June with medical director Sandra Devine, the new deputy medical director, the executive team who you were dealing with.

A I felt that relationships were becoming strained at that point in time. There was a sort of background to that. There had been a Healthcare Improvement Scotland inspection earlier in the year and they had interviewed me and it was very different from previous interviews in that they said they wanted to ask me about culture, and this was around the time of the issues with ventilation and Cryptococcus, which

were, you know, I was having problems accessing information and there wasn't good working between Infection Control and Estates, and there were obviously a lot of staffing issues.

So I told them all of that. Dr Armstrong was contacted. She did come and speak to me, put in the mentoring process and, while I felt that she was very supportive, she also suggested that I had whistleblown to Healthcare Improvement Scotland and that I should be doing things internally, and I think at that point I had become labelled as a whistleblower.

Subsequent to that, I have submitted the report, with Stephanie Dancer, to the-- sorry, I can't remember the exact name of the committee, the Health and Sports Committee (sic).

Q And this was an ostensibly anonymous report?

A It was, but the reports had been brought to Dr Armstrong's attention and she came to my office and she wanted to discuss them, and I felt at that point that I had to tell her that it was me.

Q Did she take that well?

A She mentioned something about lack of trust at that point.

Q When you say that she suggested you might have whistleblown to Health Improvement Scotland, I'm slightly-- I mean, I have to confess, not being an expert, it's a complicated field of

the law, so we're not expressing an opinion here, but you didn't approach Health Improvement Scotland, they came to you?

A They came to me. I wasn't even on their list. My colleague, Dr Valyraki, was meant to speak to them and she went off sick, and my other colleague was part-time, so I was the only ICD on the site, so I had to go. You can't refuse to attend an interview with Healthcare Improvement Scotland, so-- and it was clear they wanted to explore the culture. They knew at that point about the action plan from my colleagues because they asked me for the version that I had. So they clearly had some sort of background information before they came and they asked me questions, which I answered honestly, so----

Q So if you did, as it were, with a small 'w', whistleblow in that process, it wasn't that you sought them out, they came to you?

A Absolutely not, no.

Q Right, okay. I'd like to look at the first and second IMTs of the summer. So if we go to bundle 1, document 72, page 320, I'd like to understand who's turning up to these meetings, and why are they there? Because this is, from our lists, the first of the gram-negative bacteria-- bacteraemia at a paediatric haemato-oncology IMT. Have I got that

right, the first one?

A That's correct.

Q Yes. Now, why is everybody here, in a sense? I don't need you to explain why treating clinicians are present because we'll just take that as a-- as an assumption, so we don't need to name them, but going through this list, you're there because you're the chair of the IM-- you're the lead ICD.

A Yes.

Q Ms Dodd is there because she's the lead ICN for paediatrics.

A Right.

Q And then, what's the next person on the list who's not a treating clinician?

A Jen Rogers.

Q Why is she there?

A She was the chief nurse.

Q And she covers paediatrics?

A Correct, yes.

Q Why is Karen Connelly there?

A She's Facilities.

Q Then, the next person who's not a treating clinician is----

A I don't recall who she is.

Q But the next person who stands out as a person who might not be a treating clinician?

A Gael Rolls, but she was a senior nurse within the RHC.

Q Right, and Mr Dell?

A Press Office.

Q Dr Kennedy, why is he there?

A I think he was there because he had been involved in the 2018 IMT, and I think at that time we were dealing with gram-negative bacteraemias again, so it would make sense to include him for continuity----

Q So he's continuity, right.

A -- and epidemiology, yes.

Q And Mr Conner is Facilities?

A Correct.

Q Mr Purdon is Estates?

A Correct.

Q Susan McFarlane?

A Can't recall.

Q Then Dr Chaudhury is a treating clinician.

A Yes.

Q Right. We then go on to the next one, so that's at page 325. Membership has grown a bit, and this is on 25 June. So, looking at people who weren't at the previous one, we've now been joined by Sandra Devine. Any particular reason she feels she's coming to this one?

A She's the infection control manager, but she would generally be present at that IMT, so there may have been a reason why she wasn't at the first one.

Q And Mr MacDonald?

A Facilities.

Q Kevin Hill is the manager for

Children and Families?

A The director.

Q The director, sorry. Mr Redfern we've met before. Mr Dell we've discussed. Morag Jones, I don't think----

A I can't recall.

Q You can't recall. Professor Steele, Mr Conner. Annette Rankin has arrived from HPS.

A Yes.

Q This is presumably because there's been a HIAT report.

A Yes.

Q Janet Young?

A Janet Young was one of the laboratory managers.

Q Angela Howard?

A Senior charge nurse on the Outpatient Ward.

Q Now, Dr Deighan has arrived. Now, he explains that he's arrived because Scott Davidson couldn't come.

A Correct.

Q Would that have been explained to you at the time?

A I think I would have known to assume that at the time. It might not have been explained.

Q Right, and then Dr Kennedy again and Sandra Higgins?

A Laboratories.

Q Gael Rolls we've discussed, and Dr Sastry we know about. Now, so you report in the appropriate membership

in every one of these minutes it was agreed that all the necessary professionals are present and represented at the meeting. How much control do you have who turns up to one of your IMTs, as the chair?

A To a certain extent I do, but it becomes very difficult when it is individuals who are part of the executive team. It would be very difficult for me to ask them to leave the room.

Q Do they tell you they're coming or do they just arrive?

A No, they would just arrive.

Q There's been some suggestion that you-- that at this point you might have previously had pre-meetings for some of them, to brief them.

A Correct.

Q Who would you have briefed?

A So those weren't set up by me. I can't remember who set them up, but, generally speaking, Sandra Devine would be there, Tom Steele, either Chris Deighan or Scott Davidson, Kevin Hill, maybe Jamie Redfern.

Q From your point of view, what was the purpose of these pre-meetings?

A So as these IMTs and some of the feedback from the 2018 IMTs-- There seemed to be individuals who were uncomfortable with me bringing results to an IMT and presenting results at the IMT before they had seen them. From my perspective, that's how IMTs are. We're always-- you're going there knowing that you're going to find out new information. You've got multiple different colleagues around the table, all of whom are bringing information from their particular area within (inaudible) clinicians.

Q It's a working meeting, in a sense.

A It's a working meeting, and microbiologists will come with information that I haven't heard before. So, for example, Kathleen Harvey would come into an ITU meeting, would be presenting information that I, as the chair, haven't heard before but that I can assimilate and analyse in the space of the meeting and use that to inform decisions.

There seemed to be concern about that happening, but equally with that, people have been very clear that their remit is not to interpret results and that is my remit. So, I was comfortable undertaking that in the IMT because the alternative is that I then need another meeting later in the day and the clinicians are far too busy, people are too busy to have two meetings. So, if I have results in front of me or emailed to me by the lab, then I'm going to just take the opportunity to deal with them as they arise.

Q So how did these, sort of, almost special pre-meetings for the people you've mentioned-- how did they

assist that particular problem?

A It put pressure on me and the laboratories to get results in time so that we could go there, talk through the results, and come up with a plan on how the IMT was going to progress and the route that the IMT was going to go down before we'd actually had the IMT. So, it may have helped certain individuals in the room have, I think, a level of control over the situation. It didn't particularly help me or the laboratory staff; it put additional pressure on us.

Q Might it have resulted in-- Is it not possible that-- If you imagine a scenario where you receive some information, you prepare your briefing for the pre-meeting, you have the pre-meeting, it comes to some form of approximate conclusion about where the IMT is going, you then have the meeting, and there's new information. Is that not going to just make it worse that people are confused about having information in the middle of the meeting?

A Do you mean people are confused about me delivering information or----

Q No, if you-- If the critique – which seems to be the critique – is that you receive information in the middle of a meeting, and the most extreme example is handwritten notes with numbers on them----

A Yes.

Q -- but obviously there's also, Estates people turn up with information and----

A Yes.

Q -- connections to that information, so if the critique is that that's somehow difficult for some of the people at the IMT to work with-- and those people are largely the executive people, is effectively what you're saying?

A Yes.

Q Yes. Then having a pre-meeting, does that solve the problem? Because it's still going to happen in the meeting; the new information comes in.

A It doesn't solve it, because there is continually information coming in so, like, laboratory results are only one part of it. You've still got the clinicians who are not involved in the pre-meeting, and they're coming usually to impart lots of new information that we haven't heard before. So, we're still having to go through, effectively, the same process of analysing the results and coming to a conclusion based on the whole picture.

Q Because could it be that the people who want the pre-meeting somehow misunderstand what an IMT is doing?

A I do think that's the case. I mean, like I say, I've been chairing IMTs for a long time, and they're a bit like what

we call an MDT, a clinical MDT, a clinical multidisciplinary meeting----

Q Multidisciplinary meeting.

A -- where it will be led by a clinician for a service; you will have microbiologists, maybe physiotherapists, psychologists. Each person is coming with their own information to impart to the clinician leading it. They're taking all that information and they're making a decision and a treatment plan for the patient, and IMT is very similar to that.

I think some of the executives struggled with that concept because they're not accustomed to clinical MDTs, they're much more accustomed to maybe more business-type style meetings, more corporate style meetings, and I've attended some of those myself in my new role and pre-meetings do occur.

They are something that occurs to run the agenda, decide who's going to speak about what, who's presenting what, that kind of thing, and in that setting I think they can very effective, but we are working in a very fast-paced clinical environment with very busy clinicians, and we don't have the same time, and the function of our IMT is not the same as a business-type meeting.

Q So, what I'd like to do now is, trying to keep the-- is trying to think about the issue that you raise, which is that there is some sort of challenge to you

about epidemiology. If you go back to your statement, which is paragraph 803-- I haven't noted the page number down-- is 259. You describe a particular problem with the IMTs at this point. You didn't find them to be very efficient.

A Yes.

Q And you were spending time going over minutes, going back over hypotheses and challenge about epidemiology. What is it about these IMTs that you think is the cause or causes for these changes that you're describing in these paragraphs, compared to, say, the earlier part of 2018?

A Again, I felt that this was more about the reputation of the organisation rather than trying to get to the root of the problem. I felt that the epidemiology was being interpreted with that in mind to say that there wasn't a problem. For me, I felt there were reasons that there had been some changes in the epidemiology, particularly around all the work that had been done on gram-positive infections.

We had managed to bring those down, but we were still seeing, in my view, an excess number of gram-negative infections, but not just that, but it was the diversity of the organisms again, which were very much in conjunction with that definition I gave you earlier of an opportunistic premise plumbing

pathogen.

So, within that definition, there are the classic waterborne organisms that we've mentioned, but also within that definition are organisms that can sometimes be considered to be found in the gut, so Enterobacter and Klebsiella, but are also implicated in water outbreaks and are also part of that opportunistic premise plumbing pathogen definition.

That was a point that I felt was not being accepted. I felt that the focus on these organisms was that they could only be from the gut and they could only be a result of gut translocation, as opposed to coming from the environment.

Q We had some evidence from Dr Kennedy and, I mean, cutting it very, very short, he was quite adamant-- I think he said two or three times to me that he wouldn't want his view to be interpreted as "There wasn't a problem."

A Yes.

Q He felt he was saying that actually it was a different-- it was a more complex point that he's making.

A Yes.

Q Would you accept that in respect to Dr Kennedy's analysis?

A I think at the time-- So, he's said that now, but at the time, his analysis was being referred to by senior members of the organisation as being definitive, and I don't recall him expressing the

opinion at the time.

Q But it wasn't definitive?

A Uh-huh.

Q Right. I wonder at this point whether it would have been a good idea to carry out that bringing together of the epidemiology work that you'd not done the previous October.

A Yes.

Q Why didn't that happen?

A I think by that time-- I think HPS by this time maybe were looking at producing a report, and then I resigned. So, that epidemiology would have had to have been updated to give it any value. So, having Ian Kennedy's report is one thing, but I would have also needed Kathleen Harvey-Wood and Dr Peters to produce an extension of their work and I would have needed Health Protection Scotland to produce an extension of theirs before I would be in a position to bring that all together.

Q Because the narrative that Dr Kennedy sets out, I think, is that at the meeting on 14 September-- or if not at a meeting, quite close to it, he is asking you to present his 2019 report to the IMT. Do you recollect that happening?

A Sorry, 14 September? I wasn't----

Q Sorry, 14 August. My mistake.

A 14 August. I don't recall that.

Q The essence that I got is that

in the days or weeks before your replacement as IMT chair, he's asking you to have his report presented. Do you recollect that?

A I can't recall that, no.

Q I want to just check when you received a particular report, which is an HPS report. It's bundle 7, document 5, page 194. Now, the version we have is recorded at the bottom. It's called, "Situational Awareness, Wards 2A/2B, Royal Hospital for Children, NHS Greater Glasgow and Clyde," and the bottom of the page, it is declared to be version 1, June 2019, but we've had evidence from Dr Imrie and from Dr Kennedy that this version was shared with-- a version of this was shared with the Health Board early in 2019 – Dr Imrie said it was January, Dr Kennedy didn't give a date – and he had checked it. He'd been part of the checking group.

A Yes.

Q And if we go through to appendix 4, which is page 205, we have a little epidemiology report, and if we go through four pages and stop there, we will see that there's a graph to go back to a date in 2013, I think it's June 2013, and they go forward to a date in late 2018. If we go back three pages, we'll see it written down, but the reason I'm asking about this is, when did you see this report for the first time? Go back to 205, please.

A If there was an earlier draft that Ian Kennedy would have seen, I would have seen it around the same time, I would imagine. I would have been in the distribution, but I can't be more specific than that.

Q The reason I'm asking is because, as you say, it does seem to be the case from the way Dr Kennedy expressed it that, yes, his report is ultimately deemed to be important by some people.

A Yes.

Q This report doesn't seem to attract the same attention, although its later version does, and I just wondered why it is that, in a sense, you're not also looking at this at the time because, basically, the first few meetings before you're removed, you're not talking about epidemiology in the way they talk about it afterwards, and I wonder, why does that change?

A I don't know. I can't recall.

Q Because there's epidemiology evidence available, albeit this is for the previous year.

A Yes.

Q And Dr Kennedy's evidence is taking his work slightly further forward in time. Do you recollect that his report goes on into 2019?

A Yes.

Q And I just wonder why it is that in those early-- I suppose it's about six weeks before you cease to be the chair of the IMT, you're not looking at epidemiology as a source of relevant information. Advancing at whether there's a connection to the event.

A Well, I think this report was done in 2018----

Q It was, yes.

A -- so it wouldn't be relevant to what we were looking at at the time, but it would need to be updated with the most recent information.

Q What about Dr Kennedy's report, because that was updated?

A Yes, that was updated.

Q Let me take this off the screen. So, would you have-- Why weren't you talking about Dr Kennedy's work in the IMT?

A I don't recall. I don't recall the date I received it from Dr Kennedy. There was-- What I do remember about that time is I went on annual leave at the beginning of July and I had an extension to that because a relative was ill. So, there was a three-week-- big three-week, almost four-week, period with no IMT between the end of July and the beginning of August, which may have been a factor and may have meant that I didn't get time to read it, but I don't know for sure.

Q Yes, because there's an IMT on 3 July and one on 1 August.

A Yes. There was a significant gap at one point.

Q Now, in your statement, at page 260 – so that's the next page – in paragraph 806, you make the quite significant allegation that:

> "I could not raise the issue within IMT with Sandra Devine and Jennifer Armstrong as they were opposed to what I was doing. They did not want the infections to be investigated as an incident or outbreak. They were the people challenging me, so I didn't really have anywhere to go."

And then you describe who was supporting you. Now, I appreciate that if they were the people who were challenging you, you wouldn't have anywhere else to go. I get that, but it's quite a significant allegation to suggest that the medical director and the health-- hospital-acquired infection lead and the ICM manager didn't want these matters investigated as an outbreak. What's the real basis for that?

A The basis for that is a meeting that I had in June----

Q Was this on the 24 June?

A -- with both individuals.

Q Yes.

A We were talking about the epidemiology and Jennifer Armstrong referred to me as a lone voice. She said that I was out on a limb, that I wasn't asking for expert input early enough, and we had some conversations around the epidemiology where she asked me quite a lot of questions about the epidemiology and I gave her my view, again focusing on the nature of the bacteria, the diversity of the bacteria, explaining about the gram-positive organisms being reduced through the CLABSI work. The content of that meeting was then relayed back to the IMT by Chris Deighan, in the sense that I got exactly the same questions that I'd had from Dr Armstrong from Chris Deighan in the IMT----

Q He insists there's no connection at all.

A Mm. Very similar questions. I would imagine he would have been briefed, but perhaps not.

Q He denies he was briefed. He says he just looked at the minutes and thought of the questions himself.

A Well, very similar questions from another senior director, such that at the end of it, one of the clinicians said to me, "You are under a firing squad." That's how it felt. So there were definite challenges coming to me from the epidemiology. In addition to that, there was a meeting that I went to with Sandra Devine and Pamela Joannidis where they told me that the issue was not related to the water but that it was gut translocation, which I've described already, and I didn't share that view.

Q So if we go back to paragraph 821 on the previous page, I wanted to ask you-- I think I'll need put this to Dr Armstrong when she gives evidence next week. Do you see in the third line you've reported her view was that there was a background rate that would be acceptable?

A Yes.

Q

"She was very focused on that and was very focused on benchmarking with other hospitals, i.e., getting views from other hospitals around the country as to what their bacteria rates were."

Now, there's a lot in there. I'm going to ask her about this. I want to understand a bit more about what you think she was trying to say, or what she actually said and what she might have done. Is there a background rate, firstly, for these gram-negative bacteria you were seeing in early June 2019 that is acceptable?

A So, for certain organisms-- so, obviously these patients are very vulnerable and there are what we would describe as endogenous flora, which is the patient's own flora, and exogenous

which is acquired externally, and even with the best efforts these patients on occasions will acquire infection, often from their own gut flora, things like E.coli. So there will to a certain extent-- you know, we expect to see and this is backed up by epidemiological studies, patients, E.coli is one of the most common causes of bacterium in this patient group, but the problem is-- and it's going back to the type of bacteria and the diversity of the bacteria and the fact they're exogenous acquired from an environmental source. You would not be expecting to see a background rate, certainly not of Cupriavidus, Comamonas, Delftia. There's no background rate of these organisms. We don't see these organisms in the laboratory, in clinical samples.

Q So the second thing is----

THE CHAIR: Well, are you leaving the idea of background rate?

MR MACKINTOSH: Well, I'm wondering, we've heard from Ms Harvey-Wood about something to do with background rates, but why would you say there's no background rates for these organisms?

A Because we don't expect patients to carry them endogenously, we expect them to come from an environmental source and, as an infection control practitioner, these are what we would term preventable infections. We shouldn't be expecting to see these. We should have appropriate control over the environment and water systems such that these should not be occurring and giving a background rate. They're not what I would call endemic. So, endemic is low levels of an organism all the time, such as E.coli, but you would not expect for these unusual waterborne organisms for there to be an endemic or background rate because they are so unusual.

Q Might there be a background rate within the water system as opposed to within the patients?

A Yes, so I think that's an important distinction. When we say these organisms are uncommon, what we mean is they're not common in clinical samples, but in the environment they're what we call ubiquitous. So they can be found in the water and the soil, and if you go looking for them, you may find them. The issue with this hospital is that the levels were significantly high enough to represent a risk to immunosuppressed children.

Q And so, when you identify-- I think it would help us if you gave us a complete list of the bacteria that you-- For example, if you go to bundle 6, page-- well, find the better list actually, which is at page 121, which is the appendix of Dr Kennedy's report, and so he tells us that

this list was provided to you-- by you in 2018.

A Correct.

Q And, firstly, he then uses that as the list for both his 2018/2019 work. Were you aware of that?

A That's correct, yes.

Q Would any-- I mean, I slightly pulled him up on this, but would any distinction-- would it matter that the 2019 work was using the 2018 list? Would that affect the validity of what he's done?

A Well, there are so many different environmental organisms, we would need to be checking that we hadn't seen any newer additional ones in the patient groups affected.

Q And that would involve checking actually, as it were, the list from the IMTs?

A Yes.

Q And are you able to tell us whether this list misses out anything that should-- that appeared in 2019?

A I would need to check.

Q Is it effectively, “We just check what's listed in the IMTs”? Is that going to really be enough?

A Yes, if we're just focusing on these environmental gram-negative organisms, yes.

Q But looking at this list, which of these organisms that were at issue in 2018 and form the basis of his work in

2019 would you say there is no background rate in the patients in clinical samples?

A Okay, so the first one, Achromobacter.

Q What's helpful, if you do it for the first time, is you give me an explanation of why you say that.

A Because it's a rare and unusual gram-negative organism that we don't see in clinical samples.

Q What I'm going to do is I'm going to-- I mean, it would be effectively-- that's going to be a case for a lot of these you're going to mention.

A Yes.

Q Well, in a sense, don't say it's for the same reason when we go to it, but if there's a different for any of them, please do explain what the reason is.

A Okay.

Q So for the next one, the Acinetobacters, both of them, are they ones where you would expect a background rating in clinical samples or these patients?

A Acinetobacter is obviously slightly different. It's not just waterborne; it's often found in dust.

Q You explained that yesterday, yes.

A It's one of the more common environmental organisms that we see, but I would still be concerned to see that, so I

wouldn't suggest that there should be a background rate. If there was any level of Acinetobacter, I would be looking for an environmental source, so-- but it is slightly more common than the others on the list.

Q I can't pronounce the next one, but the next one, would that be----

A Brevundimonas, no background rate.

Q For the same reasons as the first one?

A Correct.

Q Burkholderia?

A Burkholderia cepacia, there would be a background rate in one particular patient population and that is cystic fibrosis, and that is because it is a lung condition characterised by biofilms and, with time, patients will become colonised with these resistant bacteria that form biofilms. So in cystic fibrosis, yes, there will be a background rate.

Q Would there be in any other patient group?

A No.

Q No. Cedecea? I'm going to ask you to pronounce them because I'm going to get it wrong.

A I think really the next-- the whole section down to Enterobacter, so including Elizabethkingia, for all of those there would be no background rate.

Q For the same reason?

Q Yes.

Q Right. What about Klebsiella pneumoniae?

A So, Enterobacter and Klebsiella pneumoniae are interesting in that they are found in the human gut and that can make interpretation difficult, so there may well be a background rate of those.

Q Right.

A However, they are also opportunistic premise plumbing pathogens and can be implicated in water system outbreaks and that can make those organisms-- it can be quite difficult to tease out what's going on with those, but certainly, if there was an increase above your normal background rate, you might expect an environmental source.

Q But that would have to be the normal background for those two?

A Yes.

Q Right. On to the next column.

A Morganella is potentially one that you would have a background rate for. It's a less common gut organism.

Q Similar issues with Enterobacter cloacae?

A Yes.

Q Right. Please work your way down the list.

A So all the way down, none of the rest.

Q So, all the rest would be no

background rate?

A Yes.

Q Okay.

THE CHAIR: I rather fear that I'm being very slow here. Could you offer me a definition of what a background rate is?

A What you would normally expect for that patient population, taking into account the high risk nature of the group, their vulnerability to infection and the likely sources of infection. So, we would normally expect to see background rates of organisms like E.coli, Streptococci that are found in the mouth, and that's because when these patients get chemotherapy, their mouth and their gut gets inflamed, and the bacteria cross the body are into the bloodstream. So you will see a background rate in that patient group for those bacteria.

THE CHAIR: Is the absence of a background rate in some way different from-- it is just so rarely encountered that you regard it as an isolated event as opposed to part of a number of events? I'm struggling with this, I have to confess.

A Yes, I mean, there are some bacteria on this list that I'd never seen before.

THE CHAIR: Well, is that what-- If you come across a bacteria which you, in your extensive experience, have not come across before, you conclude, “Well, there's no”-- is it because it is so unusual

that there is no background?

A Yes.

MR MACKINTOSH: My Lord, can I just chuck in a question while you think?

THE CHAIR: Yes, yes. Certainly if you've picked up my difficulty because, I mean, I do understand that some sort of infections are encountered more commonly, some are less commonly, and some are perhaps so infrequent----

A Yes.

THE CHAIR: -- as to be absolutely on the edge of the spectrum, but I certainly have a layman's expectation that if you look to the long enough period in a large enough population, even rare events will occur from time to time and, therefore, even rare events in that sense have a background rate, but I may be not understanding the point. The short answer may be that if infections are very rare, they don't have a background rate because they're random as opposed to part of a pattern.

MR MACKINTOSH: So that was why I was going on two things – one is-- I'll put out both and see what you comment on. So one is the point my Lordship's making, which is if something's random because it happens so infrequently that you're just not used to it, it's just one of these things that happens, it can be-- it might be in a sense clinically acceptable because it's what in the old

days might've been referred to as an act of God. It's so rare that it just happens for no reason and, therefore, the existence of a very rare thing once or twice in a decade might not be remarkable enough to require action.

So that's one possible way of seeing it, and the other idea that comes in different direction is, when you say background rate, do you mean a background rate which doesn't cause me anxiety about whether I can do something about it?

A Yes.

Q So that's the answer to the second question.

A The first question, you're correct. So these environmental organisms are what we call ubiquitous in the environment. So seeing a single case of, say, for example, Delftia acidovorans, people might just think, "That's just chance. There's lots of different environmental sources," and not respond to that, but the situation we had is we didn't have just one of these.

We had many of these on the list over a defined period of time and then we find these organisms in the water. So we were not just responding to a single rare case of a bacteria; we were responding to many cases of rare bacteria.

Q I think in order to finish this

section about the meeting with you and Dr Armstrong and Sandra Devine, I need to ask one more question. You've described in your statement that she was looking to-- for getting other hospitals from around the country.

A Yes.

Q Did she ever discuss which hospitals might be appropriate comparatives in that meeting?

A I don't believe so, but I think at the IMT I suggested Great Ormond Street.

Q Did she ever discuss the possibility of comparing with hospitals within Glasgow?

A No, there wouldn't have been a hospital comparable within Glasgow.

Q Why not?

A Because no other hospitals had these patients at the time, unless she was referring to the old Yorkhill.

Q Thank you. We've got no more questions for the morning. I'll have some after lunch.

THE CHAIR: We'll take our lunch break now and I ask you to be back for two o'clock.

A Thank you.

(Adjourned for a short time)

THE CHAIR: Good afternoon, Dr

Inkster. Mr Mackintosh.

MR MACKINTOSH: Thank you, my Lord. Dr Inkster, what I want to turn now to is the cases involving Mycobacterium chelonae.

A Yes.

Q Now, you've covered that in quite a lot of detail from paragraph 807 onwards in your statement at page 260. I'm not going to go there because I want to just ask you some general questions about the cases and how they fit into events. So, just to get our context, we have a case in-- well, the blood test result is 16 May 2018.

A Yes.

Q And that's a patient who, at that point, is in Ward 2A?

A That's correct, yes.

Q Then we have another patient in, is it, June of 2019----

A Yes.

Q -- who is in 6A?

A Yes.

Q One of the issues that's arisen, I don't know whether you're aware of this, is that – with his agreement, I'll use his name – Professor Cuddihy, who is the parent of one of the children, has been concerned that his daughter's case in 2018 doesn't emerge within the Oversight Board's timeline or an initial document used for the Case Note Review, or indeed the first report produced by Dr

Mumford and Ms Dempster for this Inquiry in the chronology, in all three cases. Were you aware of this?

A No.

Q We've done some investigation, and I wondered if you might be able to comment on whether this seems possible to you. Could it possibly be that a result that discloses a positive Mycobacterium chelonae result might be described, in the spreadsheet of BSI results that we have, as "gram-positive bacilli" instead? Is that a possible alternative way of describing it?

A That is possible because in the laboratory, when you have an atypical mycobacteria or nontuberculous mycobacteria like M. chelonae, that's how it would first of all be classified in a patient's blood culture. To identify these and to confirm the identity of these, we would send them to a reference laboratory, and we have had significant challenges that date back to my days in Glasgow Royal infirmary with how we handle reference laboratory reports and how they come back to the department because the system is not electronic, so it is paper-based.

Q So a paper comes back?

A Yes, and then it's reliant on the system being updated and the result being typed in, so it may be that the actual part of the system the extract has

come from has only captured the gram-positive bacilli, so----

Q And that would have been the original entry?

A Yes, so that is entirely possible that that could have happened, yes.

Q That's very helpful. If we look in your statement on page 320, at paragraph 1040, this is about the Case Note Review. Do you think this might have been the cause of this or part of the cause of this particular problem?

A So, the data I'm referring to here is whole genome sequencing reports and SBAR.

Q Oh, well, then it isn't, so we'll move on.

A Yes, mm-hmm.

Q That's fine. Now, the other thing is that we gave you in the document list Dr Mumford and Ms Dempster's report. Did you see that?

A Yes, I did.

Q And we took you to a footnote.

A Yes.

Q Did you see the footnote?

A I saw the footnote.

Q Right. Are you aware of a Mycobacterium chelonae case in the Schiehallion unit in early 2016?

A Only from the Case Note Review report.

Q Right, and from Dr Mumford finding it in the database?

A Yes.

Q That seems to be a bit of an oversight or, I suppose-- were you around in early 2016 when it would have come out?

A No, so at the time of the positive result, I was the regional ICD covering just parts of the adult hospital. At that time, we hadn't integrated with paediatrics, so I wasn't providing any paediatric microbiology cover. So, I had no infection control or microbiology remit for the RHC at the time.

Q So if there was such a result, how would the system in early '16 have reacted to a microbiologist seeing it in the results for a patient?

A So, it would be dependent on that microbiologist defining that as an unusual bacteria or something of interest, and then they would then have to forward that information to the Infection Prevention and Control team.

Q And if the Infection Prevention Control team received that information, would they then have to decide whether to commence the HIIORT process at that point?

A Yes, so anytime an infection control member gets an email like that, it doesn't necessarily result in a PAG, but it does result in a review. So, the ICNs would review the case, collect information about the case, it would be documented

on ICNET and then they might – certainly in that sort of case where it's an unusual bacteria – speak to an infection control doctor about what to do next.

Q So if they had been reacting in the way you described, it would be on the ICNET system?

A If they were told about it, I would imagine they would-- So, there wouldn't have been a transfer across to ICNET, but if they were told about something and they went to review it, they would be recording that.

Q So, in a sense, if we don't find records, are we entitled to infer that it never left, in a sense, the microbiologist; never got to the Infection Control team? Or is that a wrong inference to make?

A I think it would be highly unlikely for the ICN team not to respond and document----

Q And do something?

A -- something that was referred to them. I can't imagine a situation where they wouldn't.

Q Does this expose any issues about the systems? Because when it comes to 2019 and you are reviewing the Mycobacterium chelonae case in 2019, we've seen from the IMT minutes – I won't take you to them – that you then discussed the previous case in 2018.

A Yes.

Q One imagines it would have

been interesting to know about the 2016 case as well.

A Absolutely, yes.

Q Would it have changed your behaviour to know about it in any way?

A It would have strengthened the hypothesis if there were----

Q What was the hypothesis?

A That the infections were caused by the water system. If I'd had the knowledge of the 2016 case and obviously all the knowledge I had about the DMA report-- so I would have reached that conclusion on the basis of the increase in numbers before I got whole genome sequencing results.

Q And what would be your reason for a third infection increasing the strength of the connection in your mind?

A I suppose it's just it's an increase in numbers over a defined time period above, you know, what we would expect to see. These are incredibly rare organisms, but to see three in essentially three years.

Q Are these one of the cases where there's no background, if we refer to our conversation before lunch?

A Yes, we would not expect to see background of M. chelonae. That doesn't apply to all nontuberculous mycobacteria because there are some patient populations where you might see colonisation, like cystic fibrosis and also

HIV patients, but not within a Haemato-oncology population. You would not expect a background rate.

Q Now, I want to pick up something that relates to the interface between Mycobacterium chelonae and the chlorine dioxide system. Now, if we can start off by going to an IMT minute, which is bundle 1, document 72, page 320.

So we see this is the IMT from 19 June, and so, if we were to go down to page 321, we have a bit of discussion from you, I imagine, about the case and the previous case, but it's over the page that I want to look, onto 322. At the top, you have reported recent water sampling from 6A has found a marked reduction in gram-negative bacteria. Was this a trend that you could describe, or was it just a step or an unusual change here?

A The recent water sampling, do you mean?

Q Of the gram-negative bacteria, as it's passing -- Could you say there was a trend of reduction, or was it just behaving oddly?

A No, there was a reduction, which we would expect, I think, at that point in time.

Q Why would that be?

A Because we'd started dosing with chlorine dioxide.

Q We move on to the second sentence:

> "Mycobacterium has been isolated from a number of points. These were random outlets chosen for sampling."

What sort of outlets were they?

A Those were taps and showers on Ward 6A.

Q

> "These samples were taken with the point-of-use filters off."

So, would I assume that they're in the water system?

A Yes.

Q Right, and:

> "TI explained that chlorine dioxide has been very effective against gram-negatives, but atypical mycobacterium persisting. They are likely more resistant to disinfection."

Can you sort of provide an evidential basis for this?

A So, at the time, we had the Water Technical Group running. It's obviously a very complex incident, lots of experts involved, including Pall filters themselves, the company, and they had a microbiologist who worked for them called Vicky Katsemi who travelled over from Germany and has a lot of experience in water systems and came to my office and we had a chat about various things.

I was telling her the challenges that we were having at the time with the gram-negatives and the atypical mycobacteria, and she said to me, "You need to read the work of an individual called Joseph Falkinham from the University of West Virginia in the States, who's a leading authority on nontuberculous mycobacteria and water systems."

Vicky herself had a fair amount of knowledge about nontuberculous mycobacteria, but she directed me to his work. He has published many, many papers on the subject and, indeed, within these papers he discusses the challenges of eradication of these from hospital water systems because they are resistant to disinfectants including things like chlorine dioxide.

So, once they're in a hospital water system, very, very difficult to eradicate. I don't know if you're aware of the most recent publication by NHS England on nontuberculosis mycobacteria led by Suzanne Lee?

Q You were part of the author team for this?

A I was part of the author team for that, but, basically, the consensus is, in relation to NTMs in a hospital water system, your focus has to be on----

Q So NTMs?

A Sorry, M. chelonae is a nontuberculous mycobacteria. Sorry.

THE CHAIR: Sorry, that-- Again, that was all rather quick.

MR MACKINTOSH: Yes. I think you need to slow down at this point.

A So, nontuberculous mycobacteria are a broad group of bacteria, of which M. chelonae is one, and this group of bacteria are found in hospital water systems. The consensus for how you would approach these is not disinfection but protection of the patient population, so identification of high-risk patients, application of point-of-use filters, which are effective against NTM, and also addressing the routes of transmission. There's a lot of guidance around how you would design and maintain a new water system for a new unit, with NTMs in mind, in the protection of vulnerable patients.

Q Do we see, in a sense, part of this discovery by you reflected in an email of 27 September 2019, bundle 14, volume 2, page 585? An email from you to Allyson Hirst and Iain Kennedy?

A That's correct, yes.

Q Right, so what I want to do is take that-- So what do you think was causing-- Well, I think we've already-- you've already answered that, so I won't come back to that. What I want to do is take that off the screen and look at your interactions with Professor Cuddihy around the duty of candour to him.

Now, you've described this in some considerable detail in two places in your statement. You cover the meetings around about paragraph 1164 onwards, and you cover other sections about paragraph 827. So, before we look at any of these, I want to just get some chronologies in date here. Am I right in saying, reading your statement, that you have an original intention of sequentially meeting the parents of the second 2019 case and then Professor Cuddihy with Jamie Redfern to brief them in or about 26 June 2019?

A That's correct, yes.

Q Right, and then, I'll come why it doesn't happen in a moment, but that doesn't happen for Professor Cuddihy. So you have a second-- well, it's not the second meeting, but the meeting happens at a later date on 8 August, after Jamie Redford has been on holiday?

A Right, yes.

Q So I know the chronology correct. Now, what I want to do is, I think, is go to paragraph 827, page 265. So this is a section where you're describing the meeting with the first family, at 826. You got that there?

A Yes.

Q Then, 827:

> "Prof Gibson and I were insistent that the minute the first family left, I would go and speak to the second family with Jamie Redfern. When I got to Jamie's office, I was made aware of a phone conversation that Jamie had had with Kevin Hill in which he was told we were not to contact this parent."

Now, "I was made aware" covers a range of different things. How did you actually learn about this conversation? Were you there? Did you hear it? Did someone tell you about it?

A Jamie Redfern told me when I walked into his office. So, I left the meeting with Professor Gibson and the other family, went to his office and he told me that he'd just been off the phone from Kevin Hill.

Q As a consequence of that, the meeting didn't take place with Professor Cuddihy?

A That's correct.

Q Right, and if we then step forward to the actual meeting, which you cover from paragraph 1168 on page 359. Previous page, please, start from 358. The bottom: "I then had the meeting with Jamie Redfern." We know it's Professor Cuddihy on 8 August. Over the page, and then you just learn-- you think at the time that he's heard about it from the other family and is there some suggestion that the chairman's written a letter in the intervening time?

A Yes, so at the subsequent IMT, following on the one from myself and Brenda Gibson talking about speaking to the parents, there was a report from Kevin Hill that the chairman-- I'm not sure if he said he'd written a letter, but the chairman had communicated with Professor Cuddihy.

Q Right, so as far as you're concerned at this point, you think the chairman's communicated?

A Yes.

Q Right. Now, you then say you have a discussion with Jamie Redfern, and you describe what you described there. Now, we've heard the evidence of Jamie Redfern and we've heard the evidence of Professor Cuddihy, and we can compare the three and, no doubt, I'll make submissions other will too, in due course.

But I want just to go to the bottom of the page, and you describe in the last line that Jamie was getting more anxious and Professor Cuddihy was getting more angry, "… and I recognised that what Jamie was saying wasn't [over the page] true." In what sense was it not true?

A So, we had agreed at the IMT that we would undertake communication with Professor Cuddihy. We were advised not to, so----

Q That's the conversation where he walked into the room?

A Yes.

Q Right.

A But Mr Redfern's reasons to Prof Cuddihy as to why we hadn't contacted him were that, first of all, he had been on holiday and then he changed his reasons and then he said that it was agreed at the IMT, which it was not.

Q And that's why you said what?

A I said, "Tell Professor Cuddihy the truth, Jamie."

Q What are you referring to in that A.) what's not true, and who isn't telling the truth at that precise moment?

A So the reasons for communicating with Professor Cuddihy at the same time as the other family were not true because it wasn't because Jamie Redfern was on holiday. We had intended to communicate with him at the same time as the other family, and it was not an agreed IMT process. There was no agreed IMT process not to communicate to a parent.

Q What was the reason that you had not communicated with the Cuddihys before?

A We were told not to.

Q Were you told at any point not to tell the truth?

A No.

Q We've got your version of events. Have you ever given a different

version of events to anyone else?

A No.

Q Can I take you to Dr Deighan's report produced for Dr Armstrong in May 2021? That's bundle 27, volume 6, document 6, page 91. I don't know whether you had the opportunity to listen to Dr Deighan's evidence when it took place?

A Yes, I did.

Q Right. If we go to the appendix, which is page 102, this is a, we're told-- is a summary by Dr Deighan of an interview that took place between you and Dr Green and Mr Gardiner on 6 January 2020. Did such an interview take place?

A It did, yes.

Q Were you told in the invitation that it was at the request of Dr Deighan?

A Yes.

Q Did you know what it was for?

A The reason for the meeting was because I had raised concerns in my resignation letter to Dr Armstrong about these three issues: the SCI process, duty of candour incident and the governance of IMT. So it was a follow-up to that.

Q We see at the bottom of the page there's a section, “Duty of Candour Incident,” and then you see that four lines down it goes-- in the middle of the line that starts, "… have come from water":

"TI was to perform DoC with both families to alert to this finding. However when telling the first parents, she and the GM [I'm assuming that's Mr Redfern] for the area were stopped as they were told a letter was going from the Chairman to this parent as a number of other issues had been raised."

Do you think you would have told that to Dr Green?

A I don't remember a letter being mentioned. There was communication, but I may have. I don't recall.

Q Then, it says:

"TI then met with the [redacted] the-- about other issues and it [over the page] became apparent that he had not been told about this…"

I'm assuming that's Professor Cuddihy?

A Yes.

Q

"… and so felt that telling the truth about the investigation and findings was the only course to be taken. [It then says] She was told by the Lead Nurse for infection control that she was not to tell the [family] this detail."

Did you ever say that to Rachel Green?

A No. There was never any direction from a lead nurse for infection control. No infection control nurses were

involved in that duty of candour incident.

Q Was there any point when any infection control nurses or associate directors told you anything about this?

A No, never.

Q Can you think of a reason why Rachel Green's transcribed note, summarised by Dr Deighan, might have that in it?

A I have no idea.

Q Have you ever seen this document before, apart from its arrival in the Inquiry?

A No.

Q Were you given the minute of the meeting with Rachel Green?

A No.

Q Were you given a copy of Dr Deighan's report?

A No.

Q Just for context, this is May '21, this report.

A Yes.

Q When did you leave the employment of NHS Greater Glasgow?

A September 2023.

Q Okay, thank you. You can take this off the screen. I'd like to go to page 362 of your statement. Statement bundle, page 362, please. So you're referring, I see, at paragraph 1187 to a positioning paper by the producer on behalf of the Health Board. Do you remember reading that document?

A Yes, I do.

Q You've copied an extract from paragraph-- from section 40 of that document?

A Yes.

Q Did you ever tell anyone that you had been instructed to lie to the parents of a patient?

A No.

Q Can you think of a reason why this allegation might be made against you?

A I don't know.

Q Could it be that they're relying on the report of Dr Deighan?

A That's possible, yes.

Q Is there any other person you've ever told that you had been instructed to lie to Professor Cuddihy?

A No.

Q If we go to page 1280 of the-- That doesn't sound right. Paragraph 1280, page 348 of your statement. This is another extract from that positioning paper. It's section 63 at paragraph 1121, and it relates to a different incident. I wonder if you can help me, without using the names of the family, to put this into context. What was going on on 17 September 2018, in terms of infections?

A So, that was towards the end of the water incident, but that was the time where we were having issues with

the drains.

Q If we can look at the IMT for 10 September, which is referred to in that extract from the positioning paper, which is bundle 1, document 36, page 154, which is an IMT that you're chairing on 10 September. Do you see in the-- after the large redaction, there is a-- I'm just going to get this on the right page.

If we look in the big paragraph below the big redaction that begins “BG,” and we look three lines from the bottom of that paragraph, there's a sentence that begins:

> "TI noted the patients with E. coli and Serratia isolated from blood cultures were not included as neither of those organisms had been found in the drains or water."

Was that true on 10 September?

A It was true on 10 September, yes.

Q Can we look at the IMT-- and we're not going to put this on the screen. My Lord, I provided-- I'm reducing the level of redactions on the next page, so I provided the core participants and Dr Inkster, and you, my Lord, with a single-page sheet, which is there. Yes, and this is a-- this is page 160 of bundle 1. Have you got that, Dr Inkster?

A No.

Q I think it will be passed to you by my colleague-- (Inaudible), there we are. So this is bundle 1, page 160, and it's an IMT minute of 13 September. Now, what I've done-- if we can put the actual normal hearing bundle on the screen at this point, page 160. So this is an IMT minute that you chair on 13 September, and do you see that there is, in the patient update, quite a large redaction of three lines?

A Yes.

Q The second sentence of the large redaction refers to a patient who had a Serratia blood culture on 5 September. Is there a connection between the patient who had the Serratia blood culture on 5 September and the family who I referred to in the paragraph we were looking at in your statement in response to the Health Board's positioning paper?

A I can absolutely confirm that it would be highly likely, with the timeline, that that would fit with myself and Dr Ronghe then speaking to the relevant family.

Q Because if we go back to the page on the statement that we were looking at before, the statement bundle, we can go and read the evidence, the statement of this family. In their statement, they say that their child had a positive test for Serratia on 5 September. Now, if we look at the paper copy that those of us in the room have got, do we

see the patient was in Ward 2A?

A Yes.

Q Yes, and we go back to the hearing bundle on the screen, page 160. What are you recorded as informing the IMT after the redaction, starting with Serratia?

A Oh, so it hadn't been in the case definition to date because it hadn't been identified in the drains, but after the patient had been admitted, we found it in the drain and then we included that as a case.

Q So why would you have told the parents of the child on 17 September that there might be a connection between their child's infection and the drains?

A Because at that time I was supporting the clinicians in the ward with duty of candour because it was a very complicated incident and very difficult for them to explain the infection control and microbiology aspects. Generally speaking, what I would do was talk parents through the-- how we would approach the investigation and what stage we were at, and what the potential source would be.

I would always explain to him-- to them the difficulties of, you know, definitively connecting the drain to the patient case and the need to send isolates for typing and get further information, but I would be open and

transparent with patients about the investigations that we were undertaking and what we were thinking at the time.

Q So do you have any particular response to make to the suggestion that you-- the information you gave to the family had no factual basis on 17 September?

A No, because I was being open and transparent with the family about the investigation, as per duty of candour and as per GMC guidance for a doctor.

Q How do you respond to the suggestion that you've in some way misled the family?

A I don't believe I misled families. I was-- like I said, it can be very difficult to communicate complex outbreak and uncertainty, and I would do that to the best of my ability with a clinician present. Between us, we would explain that we were looking for sources, try and explain what typing meant, but there was never any effort by me to mislead a family.

Q So I want to just pick up something that is suggested. I'm not going to put it on the screen, but I'll just read it out. There is, within paragraph 65 of that document, that submission, the suggestion that if we turn to Cryptococcus as an issue, that at the time you were speaking to this family in September, that in January, they would have heard you connect the

Cryptococcus to the plant rooms and to pigeons. Do you think it's possible they would have heard that?

A Sorry, which family is this?

Q The same family who we were just talking about.

A Possibly. So, at the time, myself and Brenda Gibson were speaking to families. I would go down to her clinic. I can't remember if it was a Tuesday or a Wednesday morning, and at the time of the Cryptococcus, we were trying to communicate to all the families, and what we would do, we would bring families together into a room. It wasn't a great means of communication, but we had to get around so many families in an outpatient setting, so I think we had three or four lots of families that we delivered the same information to at the time.

They were obviously very concerned because although they were attending the outpatient clinic, sometimes these patients would be admitted to the ward. So, between us, we gave them an update on the investigation, but again, it was open and transparent and basically telling them what we had found and what the line of investigation was and what the relevant control measures were.

Q If you told them in January, late January even, that there was a hypothesis that there was a connection between the Cryptococcus and the plant rooms, how do you respond to the suggestion that in some way that was improper because the connection between the plant rooms and the Cryptococcus had been excluded by then?

A I didn't say there was a definitive connection. I would have run through the hypothesis. Families were asking a lot of questions. Families wanted to know what we were doing, what we were investigating, and to the best of our abilities myself and Brenda Gibson, based on the information we had, were open and transparent in response to those questions.

Q What do you say to the idea that, by the end of January, the hypothesis of a connection between the plant rooms and the Cryptococcus cases had been excluded?

A Not by the end of January. Dr Hood was still investigating that hypothesis, and several months later himself was writing to Marion Bain to complain about the fact that that had appeared at a Board meeting in minutes.

Q Thank you. I'd like to turn back to the topic of chilled beams. I've got the impression that I need to ask you some questions about when chilled beams were an issue. So, is chilled beams a-- and the leaks or condensations from them, water coming from them, is that an

issue of 2019 or something that had its gestation earlier?

A Oh, much further back. I think around 2016 reports were coming in of leaking chilled beams.

Q What was the response from the Estates department at any point to the idea that there could leaks from the chilled water circuit in the chilled beam system?

A That was something that came up at the IMT in 2019.

Q So this is in early 2019, or in the summer?

A So it's-- yes, the IMT, the gram-negative IMT.

Q The gram-negative one, all right.

A So, there was a leak from a chilled beam reported from a family. The child's sock was wet and the mother noticed that, and they noticed water dripping. I was at another meeting off site so I asked Christine Peters to go and look at the area on my behalf, and she went up and had a look around and she took photos.

It's very clear from her photos that there is a drip coming from a pipe. So it's not condensation but the pipework above, and there was water on the floor, and what she did is she swabbed both, and from those swabs we grew an unusual organism called Pseudomonas

oleovorans, which tends to be found in cooling agents and lubricants.

Looking back at that organism, we'd only in our laboratory seen one in the previous five years from an outpatient sample, so that, to us, was fairly conclusive that it was leaking pipework onto the floor. We were told that leaks could only come from the hot and that-- well, not that they could-- They couldn't come from the hot, they would evaporate immediately, but the cold, there wouldn't be any leaks from the cold, that that couldn't happen.

Q Did you eventually obtain some information about this from Colin Purdon in August of 2019?

A I believe I did get an email from Colin Purdon, but there was another Estates officer on the unit with me at one time, and I think Kerr Clarkson may have been there, and this Estates officer gave me a much more detailed description and said to me, “Yes, you can have leakage from the cold.”

Q Was there anyone suggesting that you couldn't?

A It was suggested at an IMT by the director of Facilities.

A How often were you finding things-- finding water that you thought might have been a leak from the cold circuit?

A So I'm only really aware of that

occasion in that room. I have some recollection of back in 2016, potentially, there being an issue in Ward 2A rather than 6A with loose connections, but I would have to check, and I think Mr Powrie was involved. I think it may have been around the time of the Aspergillus. It may be in those minutes.

Q I think there is some evidence around that, but we'll-- so I'll move on. What I wanted to do was to just explore the credibility of a suggestion that leaks from the chilled beams or, indeed, condensation of them could have any-- could pose a risk to patients that was material. So, if we take condensation first, by this point, the cleaning of chilled beams frequency has increased----

A Yes.

Q -- to every six weeks, from three months?

A I think-- I think so at that point, yes.

Q So, realistically, if you're cleaning the chilled beams slightly less often than once a month at six weeks, do you realistically have any risk of infection from water condensing on them and dust?

A I mean, dust gathers very quickly. Dust gathers on surfaces very quickly. You wouldn't normally leave a surface in your own home or work office for that length of time without wiping

down, I think, and finding dust, so yes, there is potential.

I think the six weeks is really because of resource issues, difficulty accessing rooms. Chilled beams are positioned above a child's bed, so you have to have an empty room, so it's really impossible to have a chilled beam as part of a normal domestic cleaning schedule because it's so disruptive to actually do it.

In an ideal world, in a hospital, all these surfaces would be getting cleaned daily and they would be dust free daily, so I think six weeks was a sort of pragmatic approach to deal with a challenging area to clean and gain access to.

Q In respect of the chilled water circuit, are you saying that there is any-- did you see a connect-- in your mind, a connection between the chilled water circuit and risk of infections, given that that particular microorganism that Dr Peters found was never found in a patient?

A I suppose it's a bit like a water system: when you find one organism and the environment is right for one organism, there might be others there, so it's conducive to others. So there may be something in that system that is promoting microbial growth, but we didn't find any evidence of anything else at the time in that system.

Q How would you react to the suggestion that the idea that there is a link is purely speculative, therefore?

A I think, again, it goes back to plausibility and probability and all the risks and the disadvantages of environmental sampling that I've discussed. So, the chilled beam is quite a broad surface area. We were taking a very small swab. We were swabbing a relatively small area of that.

I've talked about adherence of bacteria, difficulty getting it off the swab. We weren't swabbing them on a daily basis. There was limited laboratory capacity, so just because we didn't find an organism doesn't mean that it wasn't there, and I think if you sort of strip it back to just--

Say there were no infections in chilled beams in a ward with immunosuppressed children with condensation, with water drips, that isn't a safe environment, regardless of whether you have infections or you can prove links.

Q I'll come back to that in general when we get to the end of this year, as it were. What I'd like to do now is to turn to the period up to and including your removal as IMT chair, so I wonder if we can just recap. So, we've looked a number of times at the IMT of 14 August. In fact, it may be-- bundle 1 may show it

now if we put it up. Bundle 1, at page 343. Was there anything unusual about this IMT meeting, compared to its predecessors?

A Yes.

Q What was that?

A The atmosphere from the very beginning.

Q In what way was it unusual?

A There was challenge right at the very beginning about the minutes from the previous meeting in relation to the name of the chief executive being documented in the minutes.

Q So this is the idea that, if there's to be a further decant, it'd be minuted that the chief executive would make the decision, and some people wanted that removed?

A Yes.

Q Who wanted that removed?

A The director of Facilities.

Q Is it normal to name an office bearer in a minute who's going to make a decision, in IMT minutes?

A Yes, I believe so.

Q When the previous decant had happened, who had actually made the decision?

A The chief executive.

Q Would it not be fairer to say that it was this water review group that met, of about 8-10 people, that made the decision instead?

A So I wasn't at that meeting, so I don't know what took place at that meeting, whether it was a group decision or whether, ultimately, the chief exec made the decision. I don't know.

Q What I'm wondering is, how did her name get into the minute? Why was there discussion at the meeting around the idea that the chief executive would make the decision rather than some executive group make the decision?

A Somebody must have named her at the previous meeting.

Q You don't remember who?

A I don't recall who, no.

Q But anyway, it was an unusual meeting and there was challenges.

A Yes.

Q Anything else about it that stands out now, looking back on it?

A So, when we came to discussing the epidemiology, I had brought two colleagues along with me because by this point I was being significantly challenged around the epidemiology and I wanted to bring Kathleen Harvey-Wood and Dr Christine Peters, who had produced that previous report, to the meeting.

Kathleen Harvey-Wood had obviously decades of experience covering the old Yorkhill hospital, so she had insight into that, and Christine had obviously produced the report with her, but also I wanted Christine there because the chilled beams hypothesis was being contested. So those two individuals were present.

When we talked about the epidemiology, Kathleen was talking about the data and how it was unusual and it wasn't similar to what they'd seen in Yorkhill, and she was challenged by one of the individuals in the room around what she was saying.

Q Given they may have been a witness, whom?

A Dr Deighan, and he said to her that “children splash in muddy puddles.”

Q But in terms of the epidemiology, how did he challenge her?

A Sorry?

Q In terms of the epidemiology, how did he challenge her?

A He was referring to Ian Kennedy's report, talking about how these were rates comparable with Yorkhill, that the organisms had been seen before in Yorkhill, but obviously, Kathleen had had decades of experience covering that unit, and that wasn't her view.

Q After this meeting, did you hear from any member of the Infection Prevention and Control team about the IMTs and how they were to be run in the future?

A So, around two days after this

meeting, I was at a meeting with the infection control team, and Sandra Devine stayed behind to talk to me. She referred to this as being a difficult IMT and it must have been difficult to chair and she said to me, "Could you please think about what support you might need around future IMTs?"

At the time, I expressed concern about the time that we were taking to go through minutes, so I asked if the meetings could be recorded to make that process easier, and then I referred to the sort of narrative that I was a lone voice in the room around epidemiology and that I would find it really useful to bring microbiology colleagues along with me to future meetings.

I believe I also discussed perhaps an operational chair because-- I think because we didn't have control of the environment at that time, we were once again thinking, do we need to decant again? So I remember saying, "Maybe I need a second chair," and we'd done that previously.

Q So how would a second chair work?

A So how that would work is, because this was still very much an active infection control investigation, I would lead the first part of the meeting, so basically the standard IMT agenda right down until the bottom, when it gets to contingency planning, and then I would hand over to them.

Q What would they then do?

A They would take the members of the meeting through the contingency planning and develop actions for that.

Q So if we, for example, just look at this IMT because it's in front of us, effectively, would it be somewhere around page 337 in this minute that you would get a switch over? 347, sorry. There should be an action point. Sometimes you get action points. This is a bad example. I shouldn't have picked this one, but we've seen IMTs that have an action point here.

A Yes.

Q Would it be somewhere in the action point that you would hand over to the operational chair?

A Probably not. The actions would be pulled together all at the end, so it's probably likely to come maybe just before the communication section or just after that.

Q But around about the time of, “What we're going to do now?”

A Yes.

Q Right. What else did she tell you? We can take that off the screen.

A That was all she told me that day.

Q Would you say that you volunteered to a change of chair?

A No.

Q Did you at that meeting agree to be replaced?

A No.

Q No. Did she say anything about a meeting that you'd been invited to on 20 August?

A No, she didn't. Our conversation was in the morning and then this invite came after that.

Q Well, let's look at that. It's bundle 14, volume 2, document 144, page 568. 568, thank you. We've seen a number of different versions, but this one, is this the invitation that you received at 11.35?

A That's correct.

Q What's this an invitation to?

A It was a meeting to understand what additional support was required for the IMT. So, I've talked about issues with the minutes. There was also issues with getting rooms in the hospital; it was proving difficult to the same room or a big enough room. There was also-- It was a very stressful time for staff, particularly nursing staff, and I think they were in need of more support, which I think is why Margaret McGuire is on that list as the director of nursing.

Q So you're confident that although this email doesn't mention IMT, it is about the IMT?

A Yes.

Q Right. Did you intend to attend the meeting?

A I did.

Q Before we get to the meeting that happens on the 20th, I'd like you to look at another email. This is an email sent on Monday, 19 August, bundle 14, volume 2, document 155, page 601. Do you remember getting this email?

A I do, yes.

Q Is this responding to somebody – who we now know to be Dr Peters, but it of course wasn't known then – whistleblowing about the previous meeting on the 14th to HPS?

A Yes.

Q When you received this meeting, did you know that Dr Peters was the whistleblower?

A She had told me that she'd contacted HPS.

Q So you knew it was her, effectively?

A Well, yes. I'd worked out it was her, but she didn't refer to it as a whistleblow. She said she was going to contact HPS.

Q Right. Now, what are you being asked to do by Dr de Caestecker?

A So I'm being asked to participate in an investigation led by Dr de Caestecker but with input from an HR director, and she wants to get my perspective on the issues that have been

raised by Dr Peters.

Q Did you reply saying you'd be happy to meet on one of those dates?

A Yes.

Q Now, if we go to the-- you weren't able to make the meeting on 20 August.

A Correct.

Q Because you had a respiratory virus.

A Yes.

Q Did you tell Sandra Devine you weren't going or anyone else?

A I told Dr Peters, who is my line manager and who was my point of contact for any health-related issues.

Q Are you assuming that she would have passed that information on, or you don't know?

A She would do that automatically, yes.

Q Right, okay. Let's look at the minutes of the meeting, which is bundle 6, document 22, page 70. So when did you receive these minutes?

A I think I received them a few days later.

Q Would it have been before or after the IMT of 23 August?

A Before, I think.

Q Before?

A I think. I'd have to check.

Q Well, it may matter, but we'll go on. What was your reaction to reading these minutes?

A When I read them, I was quite upset because there was reference to behaviour that I didn't recognise and that----

Q Behaviour by you?

A Well, it was “microbiologists,” plural.

Q Right.

A There was a suggestion that there had been a culture of non-team working in this IMT. It suggested to me it wasn't just about one meeting, but it was plural: “microbiologists' behaviour.”

Q And the only microbiologist who is going to all the meetings is you?

A Yes, and nobody had told me or given me any feedback about my behaviour. Because the IMTs were quite complex, were challenging, I was asking people for feedback. I would say, "Did I chair that okay?" and I never got any negative feedback from anyone at the time.

Q If we go on to the next page, we see some actions. That's why it may matter when you received it. It's proposing to change the IMT chair to an experienced public health doctor or an ICD for another area.

A Yes.

Q Ultimately, it was a public health doctor, but an "ICD from another area," what should we read from that?

Another area in terms of within the Health Board or another health board?

A It would be within the Health Board.

Q So, given the small number of sessions, we're looking at, what, a handful of people who meet that description?

A Yes. At that time, there would only be two or three people.

Q Right. Then the pre-meeting section, who are the key members being discussed in the section at the end about pre-meetings at item 3? I mean, you weren't there, but who do you read that to be in the context of the minute?

A The people attending the pre-meetings?

Q No-- Attended the pre-meetings, yes.

A So, regularly would be Sandra Devine, Scott Davidson, Tom Steele, Kevin Hill, myself.

Q Is this, in effect, the pre-meetings that you'd had before?

A I believe so. We'd already had pre-meetings before this meeting.

Q Right. Could it be that other members of the IMT just didn't know about the pre-meetings?

A Yes.

Q So, before this meeting took place, other than Sandra Devine, had anybody else-- and Dr de Caestecker's

email, had anybody else communicated with you about the IMT and how it was operated?

A No. Well, actually, Sandra Devine did speak to me on a second occasion, the day before this meeting.

Q Right, and what did she say then?

A That was the Monday morning, and she said to me, "I'm really sorry, but you'll have to give up the chair." She said that "everybody, and I mean everybody, said the meeting was terrible, there was no team working," and at that point she informed me that Scott Davidson would be taking over.

Q This is before this meeting?

A This was the day before this meeting.

Q So the meeting happens, you're not there----

A Yes.

Q -- and the meeting-- This is on a Tuesday?

A Yes.

Q Right. Between this meeting on the 20th and the IMT which is therefore on the Friday----

A Yes.

Q -- is anyone else-- did anyone communicate with you about the outcome of this meeting?

A No.

Q When you are arriving at the

IMT, at that moment, do you know you're not going to be the chair?

A Yes.

Q Right. Do you have this minute?

A Yes, I do.

Q Right. When you see-- is there a pre-meeting happening when you get there?

A I was actually invited to the pre-meeting by Sandra Devine. She phoned me to say there would be a pre-meeting, but because I'd been on days off sick, I then came back and had to find results for the IMT, so I didn't get to the pre-meeting.

Q But the pre-meeting ran on, we understand, beyond the start of the meeting.

A Yes, so I was outside at that point.

Q You didn't think to go in?

A No.

Q Why not?

A I'm not really sure. I think I just got there at the time that the IMT was due to start, so I just waited with everyone else outside to go in.

Q Who was inside the room in the pre-meeting?

A Sandra Devine was there. I think Chris Deighan was there, Emelia Crighton, possibly Tom Steele, senior management from RHC. I can't

remember exactly who. In the corridor, there were clinicians, myself and Annette Rankin from ARHAI.

Q So before we go into the IMT itself, do you consider that the process conducted to remove you as the chair met governance standards, as I think Annette Rankin is about to ask when we get into the meeting?

A No.

Q Why?

A I didn't feel that there was adequate discussion with me about removing me as chair. I wasn't really given sufficient feedback as to why I'd been removed as chair. In fact, in the meeting, I was given several other reasons from Sandra Devine, including being off sick, including the need for support, so it wasn't clear to me exactly why I was being removed as chair. I think perhaps a more appropriate approach would have been to discuss a deputy chair with me – perhaps a microbiology or ICD colleague – but nothing like that was discussed.

Q Do you consider the process that had been done to replace you as chair to be fair or not?

A No, I didn't consider it to be fair.

Q For what reason?

A I didn't feel it was fair for senior staff, some of whom had never been in

an IMT, to be having a meeting where they were discussing the behaviour of myself and others.

Q When we get to the meeting itself, if we can go back to the IMT bundle to page 348, so this is the minute. Now, I appreciate that there is a point later where Annette Rankin challenges the minutes and makes some suggested changes. I think these might be incorporating some of her changes but not all of them.

A Yes.

Q But in general terms, is that big paragraph at the beginning broadly right in terms of the order of events, in that people ask Dr Crighton why she's chairing the meeting and not you?

A No, it's not correct.

Q So how did the meeting go?

A I had requested changes and the changes are not in this minute.

Q So if we put that minute to the side for a moment and just focus on what you remember. You arrive in the room, you all sit down. What happens?

A I remember seeing Annette Rankin and Brenda Gibson sort of whispering to each other and then they asked why Emilia Crighton was chairing, why there was a new chair.

Q Could it have been Annette Rankin you asked?

A I think it was Annette Rankin,

yes, who asked. Sandra Devine said that first bit, that she'd had a conversation with me and it was about me having a chance to review the incident. I----

Q Is that true? It's true that you had a conversation with you before you said that, but did she have a conversation regarding the complexities of chairing this meeting and being an active participant?

A No.

Q Is that true?

A No.

Q Did she have a conversation-- Firstly, did she say that in the meeting?

A Yes.

Q Yes, but it's not true? Did she say in the meeting that, in principle, you were in favour of another chair?

A Yes.

Q Is that true?

A No.

Q But you are in favour of an operational chair joining you?

A Yes.

Q Is that a distinction that was made clear at the time?

A Yes.

Q At the meeting, was it made clear?

A Oh, no, not at the meeting.

Q Did she say that this conversation was informal and no decision was made at the time?

A No, because she told me that

Scott Davidson was chairing the meeting.

Q But did she say that to the IMT at the time on 20 August?

A No.

Q No? That's not a fair recording of what happened?

A No.

Q Right. Did she say to the meeting that she informed that, in Dr Inkster's absence this week and to ensure that the meeting went ahead, she had contacted other ICDs, but because of the complexity of the meeting they did not feel they could chair?

A Yes.

Q Is that correct, from what you know?

A I am aware that she did contact Dr Valyraki, my colleague.

Q That wasn't perhaps the point I was focusing on, which is, is it a reasonable inference that the reason Sandra Devine contacted other ICDs was because of your absence? Why would she have gone to the other ICDs? What would have been her reason?

A It would have been to get another chair.

Q We've already discussed the penultimate sentence, the last two sentences with Annette Rankin, so I won't go over them with you. How did the rest of the meeting go after this introduction?

A It was a bit tense because,

actually, what these minutes don't state is my reaction to what I was being told.

Q What was your reaction?

A I informed the group that I had been informed that the meeting had been dreadful and everyone felt it was dreadful because of my behaviour and the lack of team working.

Q Did you go on? Did you say anything else?

A No, I stopped at that. I stayed in the meeting, but I stopped at that.

Q Did anyone react and say, "That's not true," or, "That's terrible," or, "You're an awful chair," or did anyone respond in any way?

A No one responded.

Q Right. Eventually, did anyone who was in the meeting back on 14 August comment on your observation that you'd been told you were a terrible chair?

A Yes.

Q Who was that?

A Annette Rankin and Brenda Gibson.

Q Right. What did they then tell you later?

A That I hadn't been a terrible chair, that I'd chaired the meetings really well and that the meetings had been difficult and challenging but not because of me but because of other people.

Q Now, in terms of the substance

of the meeting, what then happens that's perhaps important? This is your last IMT you attend?

A Yes.

Q Yes, so is there, on page 350, a discussion-- a report of Dr Kennedy reporting on his epidemiology report?

A That's correct.

Q And you produce figures from Great Ormond Street?

A I do.

Q Why are you suggesting figures from Great Ormond Street?

A So Great Ormond Street, at the time, were publishing an annual report of all infections in the children's hospital and that was quite a useful resource, and I had accessed that. There were several years of data and I was particularly interested in the rare and unusual environmental organisms that they were seeing because I was being told that this was, you know-- we found these organisms in this patient group, this is no different from Yorkhill.

So I was very interested to see what Great Ormond Street's data was showing. I think the particular report I looked at, I think there'd been one Stenotrophomonas that entire year. It was a very different picture in relation to their epidemiology. It was the organisms that you might expect patients to have – those endogenous organisms like E. coli,

coagulase-negative staph, Streptococci – and very few environmental gram-negatives.

I suggested that perhaps Great Ormond Street could come up and do a review, which would involve looking at our data, but also would involve looking at our children's ward, and there were two consultants there that I was aware of that I felt would have very valuable input if we were to invite them up.

Q How was the suggestion received?

A Somebody said that it wasn't a viable comparison because we were in a decanted ward.

Q Why would that be true?

A I don't believe that's true because it's the same patient population, aside from a handful of bone marrow transplant patients as 2A was.

Q So, after the meeting-- can I ask you to look at bundle 27, volume 11, document 20, page 99?

THE CHAIR: Just before we leave the minute----

MR MACKINTOSH: Yes, of course.

THE CHAIR: -- Mr Mackintosh.

MR MACKINTOSH: In fact, the minute----

THE CHAIR: It's entirely my fault. Could I just confirm the points on which Dr Inkster said-- We're looking at the first paragraph under "Welcome," just the

points where Sandra Devine is reported as having said something and whether Dr Inkster accepts what she said.

MR MACKINTOSH: Well, shall I just go through it line by line, my Lord?

THE CHAIR: Yes, I would be grateful because, quite frankly, I didn't keep up with the distinction of what was said and what was accurate.

MR MACKINTOSH: I'll do it in the traditional manner. So what I'm going to do is I'm going to identify each sentence and ask you whether it was said and then whether it's accurate, and there's a distinction, Dr Inkster, I think. So, in the first sentence, the distinction you draw is it wasn't the group, it was Annette Rankin?

A Yes.

Q But, otherwise, is it something that was said?

A Yes.

Q Right. You are recorded-- the next sentence is, "Dr Inkster informed the group that she will no longer chair the meeting." Was that said by you?

A Yes.

Q Is it true?

A That I was no longer chairing the meeting?

Q Yes.

A Yes.

Q It starts off a bit strange, but we'll get into the pace of this. Then, "Dr Inkster said she was asked to demit the chair." Did you describe it that way? Sorry, what was that said, first?

A It was said? No, I wasn't asked, I was told to demit the chair and that's when I gave the feedback about the behaviour, as in everyone's in the meeting.

Q So that's not what was said?

A No.

Q Is it true?

A That I was asked to demit?

Q Yes.

A No.

Q No?

A I was told.

Q Then we have:

> "Sandra Devine said she had a conversation with Dr Inkster regarding the complexities of the chairing meeting and being an active participant and that, in principle, Dr Inkster was in favour of another chair. However, this conversation was in full and no decision was made at the time."

Is that sentence something that was said by Sandra Devine?

A It was said, yes.

Q Is it true?

A No.

Q Why is it not true?

A Because she told me that

Scott Davidson was going to be chairing.

Q So it therefore wasn't-- no decision was made?

A Yes.

Q Right.

"Sandra Devine informed the group that Dr Inkster is absent this week and to ensure the meeting went ahead, she contacted other ICDs, but because of the complexity meeting, they didn't feel they could chair."

Was that said by her?

A Yes.

Q Is it true?

A Yes.

Q What is the reason of the complexities of the meeting? Is the reason that, in Dr Inkster's absence this week and to ensure the meeting went ahead, she had contacted other ICDs? Was the reason she contacted people because you were absent?

A Yes.

Q Okay. Then the last sentence, last two sentences, was that said or something very similar to have said?

A I think that was said.

Q Is it true?

A Yes, that's true.

Q Right, and the last sentence, is that true?

THE CHAIR: Sorry, where are we now?

MR MACKINTOSH: This is also in keeping with national guidance, my Lord.

A Yes.

Q Was that said?

A Yes.

Q Thank you. Does that assist, my Lord?

THE CHAIR: I'm grateful. Thank you.

MR MACKINTOSH: Well, what I want to do now is just look at an email in bundle 27, volume 11, document 20, page 99. It appears to be a series of emails, but I want to go back to the bottom of the email, so if we go on to page 101. Page 101, please.

So this appears to be an email from an Annette Rankin, which she's given evidence about – we'll get the date in a moment – and do you see, four lines from the bottom, NHS GGC has replaced the IMT chair from a lead ICD to the deputy director of public health?

A Yes.

Q Firstly, did you receive this email?

A I did.

Q Let's go to page 100. We see at the bottom it was sent by Annette Rankin on 23 August. We have a response from Sandra Devine at 5.11 on the same day. Did you receive this email?

A Yes.

Q Now, let's go through this and

work out whether it's accurate to your understanding. The first sentence: "Chair agreed to be replaced in order for her to have time to review incident and actions." Is that accurate, according to your recollection?

A No.

Q Is it consistent with the terms of the minutes of the meeting of 20 August?

A Yes.

Q Were you replaced in order to review the incidents?

A No.

Q No. "Other ICDs on the site were asked to chair and declined." Is that true?

A That's true.

Q Yes. "National guidance confirms it's appropriate for a CPHM to chair an IMT." Is that true?

A Yes.

Q Right. Let's go to the next-- your reply, which is at page 99. What did you reply at 5.25 that evening?

A That I did not agree to be replaced to review the incident results and actions.

Q Then what did you say?

A I'm highlighting that I was asked to demit due to the feedback from everyone that the meeting was difficult and that that feedback was not corroborated by the senior clinicians, HPS or the microbiologist present.

Q Of course you'd only be aware if some of them had told you, but had any of these senior clinicians, HPS or microbiologists told you they were consulted by Dr de Caestecker or any of the senior managers about removing you before you were removed?

A No.

Q We have the minute of the IMT-- the minute challenged by Annette Rankin, which is, just for completeness, more for my colleagues than for the transcript-- it's in bundle 27, volume 12, but I'm not proposing to go to it today. How did you feel after sending that email at 5.25 on the evening of 23 August?

A I guess very upset.

Q This is the worst question for lawyers to ask: why?

A Because I didn't recognise the behaviour that people were reporting about me. Like I say, I was always someone that was seeking feedback because it was a difficult, complex incident and, for me, I was relying on, I suppose, peers, senior clinicians, ARHAI, microbiologists to give me that feedback. I'm sure that they would have told me if my behaviour had been difficult or as described.

I also felt that I'd been chairing this IMT process for a long time with many senior directors in the room and I was

puzzled and upset as to why none of them felt that they could have taken me aside and talked to me about my behaviour or the promotion of a toxic culture, or however it was described, because I would expect a senior clinician to be able to do that and to give me the feedback and allow me to reflect on any behaviours and change them.

Q So I suppose one way of analysing this is to ask you this question, which is, looking back on the period from, say, the start of the water incident until 23 August 2019, so that's nearly 18 months, as far as you see it, did your way of changing (sic) IMTs change?

A No. I've always stuck to the same process, from way back in 2009, the way that I chair an IMT and conduct a meeting. Nothing had changed from my perspective.

Q Had the situation you were investigating changed?

A Well, these were very complex incidents, I would say the most complex incidents of my career to date. So, in terms of complexity, yes, but also the makeup of the IMT had changed, so previous IMTs had not had the same representation from senior management. Usually, there might only be one manager present that would then communicate with the rest, but the makeup of the IMTs had changed significantly for me.

Q Does this go back to the conversation we had yesterday, when you're looking at the executive control group, of people reporting back what happens at an IMT before even you've managed to do so?

A Yes.

Q Right. In a very, very broad sense, was the IMT of the summer of 2019 any more complex than the water incident of 2018?

A No.

Q It seems a ridiculous thing to ask, but if you had to rank in order of complexity all the various IMTs we've been looking at, what would be the top three most complex IMTs that you dealt with in that-- in the new hospital?

A The water incident would be number one.

Q Right.

A Cryptococcus would be number two. Are we just talking about the new hospital?

Q Yes.

A I'm just trying to think. Number three would probably be the 6A gram-negative.

Q The summer of 2019?

A Yes.

Q It then comes that you resign as lead ICD and you do that by a letter, which I think you sent on 2 September?

A That's correct.

Q Let's look at your letter, which is bundle 14, volume 2, document 151, page 579. So the letter is undated, but am I right in thinking this would have gone as an attachment to Dr Armstrong?

A Yes, to an email. Yes.

Q All right. Now, we can read this and we have read it and we'll now read it again before this Inquiry is concluded, but, from your point of view, what were your reasons for resigning, in summary?

A So, there were several. In summary, I felt that the IMTs were becoming really difficult. I felt that I was being undermined, challenged. My views were not respected. I think I felt like every day was a battle, a battle to be heard. I just didn't feel I was being listened to, particularly around the epidemiology. I was having to try and send published papers to sort of back up my argument. That was new for me. So all sorts of issues around the IMT.

The other reasons were I had concerns about duty of candour with regards to patients. I was really concerned about what was being communicated to families. I'd had, obviously, the meeting with Professor Cuddihy, but I was finding it really difficult at that point to communicate with families because there was this divergence of opinion in the IMT and I was finding it

increasingly difficult to give families the answers that they wanted and what investigations the IMT would be undertaking because there was this split view. So the communication with families was a concern.

There was a lot of other stuff going on that I've listed there: issues with payroll, how I was being paid, issues with how sick leave had been managed, issues with changing to my reporting structure. A lot of irritation expressed at times by Sandra Devine because sometimes I wasn't present at meetings, but the reality was that my diary sometimes had three meetings at the same time and I had to prioritise, so the workload was an issue. Then, the last reason----

Q Well, I'm not going to go through the health issues on the next page.

A That's fine.

Q I think we'll not put them on the screen, but there was that as well?

A There was that.

Q Right, so what I want to understand is how this resignation, as it were, the reasons – I'll take it off the screen now – compares, in a sense, to your, I suppose it could be called the threatened resignation from 2018, when you come from sick leave and they've restructured the reporting lines. Are there

any themes that cross across the two?

A I would say that the culture is the theme that crosses the two because I had concerns about the culture when I came back from sick leave in 2018, which I've described, and my initial attempt to resign in 2015 was also related to the culture, so I think that is the underpinning theme of my resignations-- was the culture.

Q You received a response from Dr Armstrong, which is bundle 14, volume 2, page 561. 581, sorry. Now, when you receive this, do you think the letter is a fair response to your reasons for resignation?

A Can we move to the next page? Sorry.

Q Of course, yes.

A I felt in this letter that, rather than simply respond to the issues, there was, reading between lines, perhaps some criticism coming back to me, particularly around the third paragraph about effective team working, people being treated fairly, skills and experience respected, and around collective leadership and decision making. It felt to me that she was criticising me on those aspects which, I suppose, is similar to the output from the Linda De Caestecker meeting and the behavioural issues and lack of teamworking.

Q That's the meeting in March

with Professor Steele?

A No, Linda De Caestecker's investigation.

Q That comes later?

A Yes.

Q If we look backwards from here, this is on 5 September. Before you resigned, had you had any communication from Dr Armstrong since the IMT of 14 August?

A No.

Q Did she speak to you before she sent you this letter?

A No.

Q Does she know that you've got a copy of the minute of 20 August?

A She would because she was included in the distribution list for that.

Q When did you discuss with her, or did she discuss with you, the need for effective teamworking where all members are treated fairly and their skills and experience are respected?

A I don't recall her ever discussing that with me.

Q Did you feel treated fairly and having your skills and experience respected when you resigned?

A No, absolutely not.

Q Looking back at these events from five years on, why do you think you were replaced as the chair of the IMT?

A I think because, at that point, organisational reputation took priority

over patient safety and I think, perhaps, where the IMT might have been leading was towards potentially another decant and I think that was impalatable to the organisation and I think they didn't want me involved in the IMT anymore.

So, by removing me as chair, that sort of weakened my position because as chair you can direct investigations of the IMT and you're the person pulling together the consensus. So I'd be in a much weaker position in the room, but I think it also relates to the fact that I had requested microbiology colleagues to come along and that would mean that I was no longer a lone voice or out on a limb, that I would have support in the meeting. I do think there was particular concerns around the fact that Dr Peters was one of those colleagues.

Q In a sense because she was known to them to be a whistleblower?

A Yes.

Q You were being associated with her?

A Yes.

Q You're definitely associated with her now, aren't you?

A Absolutely.

Q Right. Looking back on those events from five years later, do you think your resignation as lead ICD was inevitable? If we'd start at the year? If we'd actually looked back at the events

with hindsight from January, do you think that was an inevitability that you'd be resigning by----

A From January 2019?

Q 2019, yes.

A Yes.

Q Why do you say that?

A Because I think there was a turning point for me. I felt that the water incident was dealt with very well, very effectively. Everyone was on board at all levels in the organisation, and I think there came a point with the Cryptococcus that there was a shift where this organisational reputation predominated and I felt that that just became stronger and stronger as time went on.

Q What I want to do now is done what we've done twice before and look back at the situation as it obtained on 23 August and ask, looking back at then, knowing what you know now, however, and looking back only at Ward 6A, what is your opinion as to whether there was a link between patient infections being seen in that first half/two-thirds of 2019, and the water and the ventilation systems of the hospital taken together?

A I believe there was a link. We were seeing similar organisms to what we had seen in 2018. We knew in the autumn of 2018 that 6A was not the safest environment for patients. We knew that there was risk associated with

that environment. It was supposed to be a temporary decant only. It was never a long-term facility for those patients.

Whilst the patients were in the ward in 2019, we encountered several environmental risks, which included the water leaking from the chilled beams, exposure of children to unfiltered water elsewhere in the building. We also had a series of water leaks on the ward, so I think we've spoken about the kitchen, but there was also a leak from a corridor and a leak into, I think, one of the prep rooms.

And we'd had historical issues, obviously, with the showers in that unit. So we also had the problem with the ventilation and the low air changes and the pressures, so it was never a long-term solution. It was with environmental risk at the time of decant and I do feel that that was a contributing factor.

I think, if we follow the epidemiology-- so the epidemiology just doesn't stop when this IMT is closed down. So if we follow the epidemiology over time – and I can take you up to the point that I left last September – post refurb, post moving the patients back, dealing with all these environmental issues, the line is almost completely flat in terms of infections.

Q So what are you saying? What conclusion do you draw from the fact that there's almost no infections now in the new Schiehallion?

A That the built environment in Ward 6A was a factor: ventilation, water and drainage.

Q Because, in a sense, the biggest control measure of all was to replace Ward 2A?

A Yes, so I spoke earlier about sometimes you need a drastic measure like a refurb or a new unit, and we'd undertaken that. In my view, it's been effective.

Q I want to challenge you about a few things you said in that discussion, so I wonder if we can go to bundle 7 at page 233. This is from the HPS October 2019 report that was produced, I think, a little bit after you resigned. Have you seen this figure before?

A Yes, I have.

Q So, Dr Kennedy took some time over this and he suggested that there is a distinct difference between the organisms identified in 2A/2B in the summer of 2018 and the organisms identified in 6A/4B in 2019. I think he was even hinting at-- perhaps he didn't go quite as far as to say there's a similarity between the two right-hand columns, so between Yorkhill and 6A/4B.

You did say you were seeing the same organisms, and so doesn't this sort of piece of work suggest that there was actually a change from '18 to '19 as the

organism polyvariant reduced, in a sense?

A Yes, but I think we can explain that.

Q So how can you explain that?

A Because see these, the more colours at the top there? These are more typical organisms that would be found in the actual water coming out of the outlets, and we had point-of-use filters in place.

Q So, in a sense, that's why they stopped?

A Yes.

Q If you take the coloured ones off the top, what do you say about the difference between the second column and the third column on this Figure 9?

A They would look fairly similar, then, if you take the top off, I think.

Q There's a lot more Enterobacter. What does that tell you?

A So, that's the one I discussed that is sometimes-- you might have a normal background rate for because it is a coliform, probably the third-most coliform, but-- popular coliform, but Entrobacter is an opportunistic premise-plumbing pathogen, and those levels of Entrobacter are higher than I would expect.

I would expect, within the infections in this ward, to see E. coli and, second to that, Klebsiella, but particularly in the last column there, the Klebsiellas, there's only

three of them and there's three times the amount of Entrobacter, and there's 16 the year before. That, to me, might suggest that there is an issue with the drainage system in particular.

Q What would you say to the very broad suggestion that the fitting of the chlorine dioxide was, during the first half of 2019, having such an effect on the water system that it's the driving force of a reduction in infections and that, in a sense, the biggest problem has been fixed by treating the water and that that's something you didn't take account of?

A I think, as I explained, outbreaks are multifactorial and they are multimodal to fix them. You're not going to rely on one control measure to bring an outbreak like this under control.

Q Dr Crighton referred a lot to the epidemiology not showing that there was a single source. Was there ever a suggestion in 2019 there was a single source?

A I believe there is a report from HPS which suggests there's no single point source that I think has been misinterpreted.

Q In what way?

A So, a point source to me in a water incident might be a single outlet, so say, for example, in a treatment room there's a tap that's contaminated and there are a series of patient infections as

a result of that. So what you would see is a rapid spike in infections and a rapid decline linked to that one outlet. That's a point source classical epidemic curve, and you would fix the problem and you wouldn't see any more infections. That's what a point source outbreak is. That was interpreted by meaning the entire water system, which is not correct.

Q Why is that not a point source?

A Because that or those are multiple outlets, very complex systems with multiple different components, and if you look at the epidemic curve that we constructed – so you can get a lot of clues from an epidemic curve – a point source-- Actually, I can draw this. It's a rapid up and a rapid down. What we had was a continuous source, so just continual infections (inaudible – overspeaking)----

Q Would this be actually illustrated in Dr Kennedy's paper?

A It possibly is, yes.

Q Well, let's have a look at what he's produced. This is where I suddenly-- Here we are. Bundle 6, page 104 starts his 2018-- 2019 paper, and I think he would like us to look, probably, at page 107 and then look at page 108, but we'll start at page 107. So he would say, well, this list is your list.

A Yes.

Q That's true. So is this the sort

of curve you're talking about, or have I completely misunderstood?

A It's quite similar to it, but not exactly the same.

Q Because he would point out that there's a reduction at the end, on the right-hand side, after October '19. I think he did say that.

A Sorry.

Q If it assists you, we're probably about 40 minutes from the end.

A That would be consistent with a continuous source, with various peaks through that time.

Q Because if I understand his position correctly and that of the way it was understood by Dr Crighton, that the things that stand out-- stood out for him on this chart are three effective peaks or groups of peaks. On the left-hand edge, in late '13, there's some form of peak in the organism rate. In 2017, there's two peaks in the organism rate and the case rate, and in 2018, there's a peak only in the organism rate, and he thought those were legitimately significant, all three of them.

But if I understand his evidence correctly, the general flow through time over that whole period was broadly consistent and, therefore, we're back to background rates. I think he wouldn't quite put it that way, but I'm being a bit glib. But would you not accept that as a

piece of analysis?

A No, because, again, it goes back to the point I keep making about the nature of the bacteria.

Q But these bacteria are the bacteria that you selected in 2018.

A Yes, but----

Q So why shouldn't we look at them?

A Because these rare and unusual bacteria, we should not be expecting to see background rates, so a single case of these would be considered significant in terms of a contaminated water system, something like Cupriavidus or Delftia acidovorans, that sort of thing. These aren't organisms that we would normally see in that patient population.

Q I think you've answered the question I haven't yet asked, which is about how do you react to the epidemiology they were relying on. But I need to ask you how you react to the whole genome sequencing.

A Yes.

Q Because at this point, I get the impression that whole genome sequencing was being actively managed as a reaction to infections.

A Yes.

Q That applies through the balance of '19 and into '20 and onwards. You're nodding again.

A Sorry, yes.

Q If you're doing whole genome sequencing as an active project, as opposed to using historical samples, do some of your concerns go away and therefore it provides an answer to the idea there's an infection link in late '19 and into '20 and onwards?

A I think if you were doing an active project, it's going to depend on all those things I talked about before, so your sampling strategy at the time would need to be taken into account and also the colony PICS as well, which I've discussed previously. The need for 20 or 30, it goes back to those two things.

So, by all means, you can do whole genome sequencing at the same time as the patient cases, but you still need to have adequate sampling from your water and your drainage system, and you still need to be picking off the 20 or 30 colony picks to get any meaningful data.

Q So then, effectively, your answer to, “When is it possible to conclude there's no link?” remains the same. It's Susanne Lee's 20 or something like that.

A I mean, it's evidenced by other papers in the literature. It's not just Susanne Lee's thoughts.

Q No, no, exactly.

A But yes.

Q Now, after you resigned, you explain in your statement that you went to

see occupational health. You gave quite a lot of detail and I'm not going to go through that in the hearing, but I want to understand a couple of questions. Did you want to go on sick leave?

A No, I did not.

Q Did the doctors treating you consider that you needed to stop work?

A No, because they were very keen and I was very keen that I maintained as much of a normal life as possible.

Q Why did you end up going on sick leave, then?

A I didn't go on sick leave.

Q Why were they asking? Were people asking you to go on sick leave?

A Yes.

Q Who was asking you?

A When I first went to occupational health the first day, I was being referred for adjustments to my normal working day, but when I went into the room, I was told immediately by the occupational health employee that she was signing me off sick with stress.

Q And you didn't feel that was legitimate?

A No, I had a physical illness, not stress.

Q Right. After you resigned as lead ICD, did Dr Crighton, the new chair of the IMT, ever contact you seeking a handover?

A No.

Q After you resigned as lead ICD, did the new interim ICD, Professor Leanord ever contact you seeking a handover?

A He did.

Q When was that?

A I think I volunteered information to him. I remember sending him some information and I put on-- We had an infection control shared drive. I put lots of documentation on that for him, and I remember him asking me to come to a meeting with him, Annette Rankin and Sandra Higgins from the laboratories to discuss drains, and the hypothesis around drains and the routes of transmission and drain cleaning and that particular aspect.

Q Did you go to that meeting?

A I did, yes.

Q Right. Dr Deighan gave evidence that she got most of her information on the previous investigation from Dr Kennedy. Would he be an appropriate source?

A No.

Q Why?

A Well, he wasn't the chair of the IMT and he's not a microbiologist, and this is very complex microbiology and complexities of water and drainage systems. So while he will have some experience from a public health aspect, I

wouldn't suggest that he would have been the most appropriate individual to speak to.

Q Now, there was then an SBAR on 25 August 2019 by some microbiologists based in-- well, in fact, possibly all the microbiologists based in the Queen Elizabeth.

A Yes.

Q Am I right in saying it's all of them?

A I think one person was on sick leave or annual leave at the time, but----

Q But anybody who's around?

A Everyone who was around, yes.

Q Right, so if we look at that, please. It's bundle 4, document 41, page 165. Yes. Were you involved in drafting this?

A I was.

Q Who else was involved in the actual drafting?

A I think there was some input from Christine Peters as well.

Q All right. If we go on to the next page, you list various issues. Is it fair to say that this is where we find your state of understanding of matters, the days after you resigned as the IMT chair? This is where we find what you think at the time?

A Yes.

Q Right, so that helps us in

speeding things up, so if we go onto the next page and the recommendations, you're effectively suggesting another decant, aren't you?

A Yes.

Q Where would that have gone?

A Well, we had started these conversations further back in January in relation to the Cryptococcal incident. It was, I think, Dr Armstrong's suggestion and intermittently throughout that year we had been discussing this, but nothing was really delivered in relation to that topic. I think had we put some serious thought into that in the January, we could have potentially-- One of the things we'd considered was a mobile unit.

Q Yes.

A So, you can bring in mobile units which can provide positive pressure rooms, negative pressure rooms, you know, the sort of spec that we would require. On hindsight, I think that might have been the thing to be pushing for back in January when we were starting to run into problems with that ward and we had recognised that the temporary decant was going to be much longer.

Q So this is around the time of the CDU decant?

A Yes.

Q I suppose, with that recommendation, one thinks of Dr Stewart's review from 2015, the one that

you didn't see at the time----

A Yes.

Q -- which contains at the end a reference to organisational political perspectives.

A Yes.

Q Now, the version he gave for it is what I want to put to you, which is that he explained that his modern reading of it is it's a suggestion that you have to be realistic as to what is achievable in an organisation, and that there's balancing between the different pressures on patients and you can't just shut a unit because patients have to go somewhere. They need to have their procedures done. If you apply that standard, firstly, is it a legitimate standard to apply, and secondly, is this idea of a decant in August '19 remotely realistic?

A So, at that time, I believe there was only a very early discussion about the specification for Ward 2A, so sometimes these mobile units can be pulled together very quickly, maybe two or three months. So, at that point, that may still have been realistic in the time frame.

Just going back to your original point, you know, we were dealing with the most immunosuppressed and sickest children in the hospital, so I think it is a reasonable request and, from my perspective, organisational reputation

and politics does not come into that decision.

Q Thank you. I want to look at another SBAR, of 7 October 2019. That's the same bundle 4, but this time it's page 180. How did this SBAR come about?

A I believe this is myself and Christine Peters continuing to highlight our concerns with the situation on Ward 6A, and it was possibly stimulated by one of the epidemiology reports.

Q Could it have been stimulated either by Dr Kennedy's report or, potentially, by the suggestion the ward was microbiologically safe?

A Yes, possibly. I'm not sure which one.

Q What are the core things we need to understand from this? If we go to page 181, why are you highlighting the issue of outbreak definitions in this document?

A Because there seemed to be a view that because these were different organisms, that there was no outbreak. So there was a view held that an outbreak is only due to a single genus of organism.

Q So you have two within a certain time?

A Yes, species of organism, sorry. So say you have two Pseudomonas in a two-week period; that would be an outbreak. If you had a

Pseudomonas and a Stenotrophomonas, that would not be an outbreak, so there was a very clear view that an outbreak was a single case only.

But we know from the literature and multiple other papers that that is not the case, and that outbreaks can be polymicrobial, particularly when they are linked to environmental organisms. So that is the point that we are trying to make there, that just because you don't have one organism causing one outbreak doesn't mean that you don't have an outbreak.

Q Does this go back to the email that we looked at this morning – I think it was this morning, it passes by – from you to Tom Walsh, which he copies to Sandra Devine? It ends up with Dr Armstrong discussing the changing of the triggers in the summer of 2018.

A Yes.

Q Does this reference back to your observation at the very beginning about GGC's infection control team being good at dealing with the known and the predictable?

A Yes.

Q So which part of the National-- Is it the case that an outbreak always has to be two cases within a certain period?

A No. If you look at chapter 3 of the National Manual, there are several definitions of an outbreak or an incident

within that.

Q And you feel they were being too rigid?

A Yes, because several of those other definitions would have applied at this point.

Q If you go on to the next page, you discuss the CLABSI rate. I mean, I'm assuming the point you're trying to make is – the end of the second row, third line – that it's possible to have a reduction of rates while the outbreak is still going on.

A Yes, because we were doing all this work around lines and that was driving down those endogenous gram-positive organisms.

Q And that shouldn't mean that everything else is fine?

A No, absolutely not.

Q Right. I think we've already-- Well, I haven't discussed with you: what's your criticism of the use of SPC charts?

A So, quite early in my career, I had a near miss of an outbreak because of a reliance on an SPC chart. So, we had an outbreak in a burns unit which looked perfectly under control, but in fact, we had a toxin-producing strain of the bacteria, and that led me to question the use of SPC charts a bit more than just accept them at face value, and it taught me to have an understanding of the nature of the bacteria.

Q What was the lesson that that

SPC chart wasn't showing you, as it were?

A It wasn't showing me that there was an outbreak in the unit from this toxin-producing----

Q Because it showed there were infections, but not of that sort?

A Uh-huh, because we hadn't breached an upper control limit, so it looked perfectly well in control. So, I hadn't had a great experience with SPC charts before this incident. I think, as I've said there, they are very valuable and I have used them for organisms that we think are endemic, so that's where you have a low level all the time. So that's your background rate, where you expect to find a background rate, and these are organisms like Staph aureus, C. diff, MRSA.

I think the challenge with using SPC charts is you're dependent on at least 25 points of stable data. So those endemic organisms lend themselves well to that concept. The problem is, if you have a contaminated water system, it's been contaminated for years, you've had infections as a result for years, when you're then constructing an SPC chart into 2018 and 2019, your baseline is elevated and therefore your upper warning limit and your upper control limits are high. For some organisms which don't have any background rate, where

one would be a problem----

Q Because those HPS SPC charts use the whole range of data to construct the mean-- or the median, rather?

A Yes.

Q Right. If we go on to the next page onto 183, actually, I just wanted to ask you about why you've taken a particular approach in the rest of these graphs-- charts, rather. They all seem not to have a denominator. They're simply counts. We'll just walk through so you can be sure of that before I ask you questions. So 183. If we go to 184, it appears to be counts, 185 appears to be counts, 186 appears to be counts, 187 appears to be counts and then we end up with some conclusions.

Now, I want to just ask you about the use of count data because I recognise that Ms Harvey-Wood's presentation used count data in quite a lot of her work and then used percentage positive bloodstream infections as well. Dr Kennedy and Dr Imrie have sung the praises of occupied bed days as a suitable denominator.

You've referred to line days in the CLABSI paragraph we've just looked at. The Inquiry's expert, Mr Mookerjee, has-- feels that admission days are a useful denominator. I'll come back to that in a moment, but why are you presenting this

in terms of absolute counts, rather than with some sort of denominator?

A So, the way this was put together was that all these graphs and charts are in fact Dr Peter's work and much of the commentary is mine. So, I think I would have to defer to her to know exactly what she was thinking when she was putting these together.

Q But I can ask you the second question, then, which is that, if we're faced with the idea of comparing places – obviously it seems important to (inaudible) the number of things happening by activity – where would you stand on the-- or would you take a different view on the idea that, between occupied bed days, admissions, percentage line days, percentage bloodstream infections-- what do you think should be used as a comparator to understand-- a denominator to understand these sorts of issues across hospital sites?

A So, I'm going to take a very different view on this and I'm going to say that I don't think comparing with other hospital sites was required.

Q Why?

A Because we were meeting the outbreak definitions in the National Manual; we had epidemiological links in time, place and person; we had the basic concepts of outbreak management

fulfilled, I think I mean. We put the relevant control measures in place, including the drastic measure of a refurb, and we have not seen-- I'm not going to say any further cases, but very low numbers of infections still.

I'm not sure how valuable it is to compare it with hospitals that we know nothing about. So we know nothing about their built environment, their water system, their drainage system, their ventilation. In some cases, we don't really know the age of the site. Some of them might be substantially older. So I think the best comparison actually is the unit itself, and what happens over time, and what you do if you plot all your control measures on the chart over time, and you will see initially that we control the water system with the point-of-use filters, and we can follow that chart and there's a drop in infections.

Then we have the spike with the drains, then we start to control that. Then we have exposure to unfiltered water, infections go up again and then, ultimately, the control measure on that chart is the refurb and the move back to 2A, and then that line flattens.

I'm not accustomed-- In all the outbreaks I've chaired in comparing different hospitals across the UK and different units in the country, it's not epidemiology that tends to feature in the

hospital outbreaks that I've been involved with. We rely on those basic principles of outbreak management.

Q What would you say that it's-- I'm not sure fair is the right word, but good use of resource or good public policy to conclude that a hospital-- if someone was to do this-- conclude that a hospital has unusual infections, has a problem that needs to be addressed, has a link between its buildings and environment, without comparing it with Great Ormond Street or Cardiff and Vale or even Yorkhill in the old days? Wouldn't it somehow be ignoring a possible piece of evidence? Why is it not any different to think, "Well, we need to compare it with everywhere else because otherwise we're wasting time or money or opportunity"?

A Children were very sick. Children were septic. Children were in critical care. Children died. I wouldn't consider that a waste of time or money.

Q What would you say to the idea that the fact that the ward was refitted – at vast-- at quite a lot of expense, 2A was rebuilt – was merely an exercise in precautionary-- a precautionary principle, and that one shouldn't infer from that any suggestion that there was a recognition at the time there was an infection between the water and infections?

A No, I wouldn't agree with that. I would say that that was an essential refurb to bring an outbreak under control.

Q Do you think the people who made the decisions above your level in the Board would accept that they made that decision because it was essential to bring an outbreak under control?

A No.

Q Why?

A Based on what I have read in relation to this Public Inquiry, based on a view that has been expressed that patients are bringing these organisms in with them from home.

Q I want just to pick up a few things before we have our break to see if there are any questions in the room. You have in your statement given an awful lot of detail about your reaction to the Oversight Board, the case notes review, the independent review. You've discussed at quite great length a lot of infections that you became aware of while you were still a microbiologist until you left to your new job. You've discussed what you do in your new job.

I'm not going to go through those in any great detail. We can read them and, of course, in due course, your own lawyer can make submissions. So I'm not going to go through those in public, but I want just to discuss a few things to do with the investigations that were carried out.

They're slightly-- they sort of dit around, so I hope you'll appreciate this. I'll try and get them in order.

So the first thing is that you have given evidence that the day before the meeting that took place on 20 August, chaired by Dr de Caestecker, to effectively decide on a replacement for the IMT chair, you receive an invitation to attend a meeting in October to discuss what we now know to be Dr Peters' whistleblow----

A Yes.

Q -- to HPS. Did you attend that meeting in October?

A I did.

Q Did she produce a report?

A Refuse to?

Q Did she produce a report?

A I think she did. Yes, she did.

Q Did you ever see it?

A I did see it, yes.

Q Given what took place in the meeting of 20 August and what the invitation email says, do you think she should have been investigating the IMT, given that she presumably made some decisions on 20 August?

A No, I believe that would have been a conflict of interest.

Q Did you say that at the time?

A No, I didn't.

Q Why not?

A It's very difficult for someone

like me to challenge someone so senior in the organisation.

Q You've also given a detailed narrative in chapter 15 about your interactions with the Scottish government.

A Yes.

Q We have those and, most importantly, we have your emails, and in due course we can put them to people, but one of the things that you discuss is a list of desired outcomes that seem to emerge from a meeting between you, Dr Peters and Jenny Copeland of NHS Scotland.

A Yes.

Q Now, this is in bundle 14, volume 3, document 187, page 63. If we go on to the next page, we see a sort of table. Now, I recognise this was produced, I think, by Ms Copeland.

A That's correct.

Q To what extent should we consider it as a useful list of your desired outcomes at the time?

A It is very useful. It's accurate.

Q Thank you. Well, we'll use that. You can take that off the screen. What, in broad terms-- taking the overarching sort of higher-level view of this, what concerns do you have about the effectiveness of the work of the Oversight Board in respect of this appointment of the Oversight Board for this hospital, this Board?

A I think, at the time, my concerns were that it wasn't truly independent, so members from GGC were attending Oversight Board meetings. I was concerned about the final report that they produced in terms of accuracy of timelines and information that had been contained despite me providing them with some information.

There was one thing in particular I remember around the paediatric BMT, where I described to them the holes in the ceiling the first time I went there and the dust and the risk from that, and I asked them why they'd omitted that and they said to me that someone had decided it wasn't important. That struck me as quite astonishing that someone would think that holes in the ceiling and dust in a paediatric BMT unit was not relevant or important. So I did have concerns about how the information that myself and others were passing to them was being assessed in terms of the risks to patients.

Q A repeated element within this section is that you express concern that people within the Oversight Board and the independent review – and, indeed, I think I just did it myself a few minutes ago – thought that you were on sick leave at points after you resigned as the lead ICD.

A Yes.

Q Why do you think this is important? I mean, apart from that I got something wrong and so, my mistake, but why do you think it's important as something you need to draw out as an issue?

A The reason I drew it out is I knew that the independent review in particular were trying to speak to me again. I was expecting that after the first interview. First interview was just a very vague overview of issues and I knew I was going to have to go back, and when they approached the Health Board, they were told that I was off sick or not available.

It came up again during an Oversight Board conversation. I seem to recall someone who sat on the Oversight Board who knew me contacting me and saying, "Are you off sick?" because there was reference to that again. I'm just speculating, but by saying that I'm off sick, it means I'm not around to be spoken to.

Q Now, a minor thing in your statement. Hopefully it's minor. If we go to page 320 of the statement bundle, at paragraph 1041, you discuss a meeting, which you describe as last minute, with the expert panel of the Case Note Review. You describe them as Professor Mike Stevens, Professor Mark Wilcox and Linda Dempster. Could you mean Gaynor Evans at that point?

A Yes, I think that's a mistake on my part, yes.

Q Who was, at the time, clinical lead for gram-negative bloodstream infections at NHS Improvement?

A Yes.

Q Right. Before we have the break, I want to ask you about Dr Walker.

A Okay.

Q So Dr Walker has been appointed as an expert to this Inquiry and we've noticed that you've published a number of papers with him over the years.

A Yes, I have.

Q What's the nature of your relationship with Dr Walker, and have you discussed the events of this Inquiry with him?

A No, so Dr Walker and I-- I've never actually met Dr Walker in person. I have corroborated with him on papers with another individual called Michael Weinbren. So we would have Teams meetings and we would divide up the work and usually Mike would coordinate those and pull things together. Also, I have sat on the nontuberculous mycobacteria group with Dr Walker.

Q Which produced the English paper that you mentioned earlier?

A Yes, but there were many members of that group, so that was a big Teams meeting. The other event where I

was involved with Dr Walker was a faculty that was set up to deliver education on healthcare water systems by the European Society of Infections, Diseases and Microbiology, and it was held in Northern Ireland. It was a two-day event. Both of us were speakers. I was aware at that time----

Q This is quite recently?

A Yes, this was just last year. I was aware at the time of Dr Walker's involvement with this Public Inquiry. So, he had travelled to Ireland and delivered two sessions in person and I stayed in Glasgow and delivered mine remotely, so there was no interaction. I've never discussed the Public Inquiry with Jimmy Walker.

Q We talked about the Horne taps meeting in 2014----

A Yes.

Q -- which he was present at, and you described-- and now there's a precise moment, I can't remember when, but Sandra Devine giving it to you in 2018, the minute.

A Yes.

Q Some of your papers have been published with Dr Walker since that date.

A Yes.

Q On those Teams calls, have you asked him, "What was going on at the Horne taps meeting, Jimmy?" or

anything like that?

A Oh, no, no.

Q You didn't discuss the Horne taps meeting with him?

A No.

Q Would that not have been a useful way of finding things out about what happened at the meeting?

A I think I already knew from the minutes and what took place afterwards in terms of the risk assessments done locally.

Q My Lord, I think that's probably where I sort of run out of speed. I wonder if we can take our 10-minute break at this point to see whether anyone has any questions for me to ask.

THE CHAIR: We'll do that. I need to discover whether Mr Mackintosh needs to discover whether there's any questions that other legal representatives wish to be put. As Mr Mackintosh has indicated, that might take us 10 minutes, so if I can invite you to return to the witness room.

(Short break)

THE CHAIR: Mr Mackintosh?

MR MACKINTOSH: I have five questions: two standalone and one little-- a mini topic.

THE CHAIR: We have some more questions, Dr Inkster.

MR MACKINTOSH: The first one relates to Mycobacterium chelonae, and so, just to recap where we are, it's June 2019 and the second case has had a positive test. That child has had the infection confirmed. Were there any investigations or swabbing or testing of the ward before then, perhaps in April 2019, looking for Mycobacterium chelonae and was any found?

A So not Ward 6A but Ward 2A, yes.

Q So would that have been part of the-- Why would you be swabbing 2A in April 2019?

A So this is in relation to Professor Cuddihy and discussions that I'd had with him and, at the time of the incident in 2018, we didn't undertake water testing at the time of that case. At the time, I think we were so focused on the outbreak and trying to bring things under control that perhaps we hadn't put the patient at the centre of what we were doing and the family at the centre of what we were doing, and we didn't do water testing to give them an answer and they wanted an answer. Just through my conversations with him, I felt it was important to try and give them an answer and I went back and instructed Estates staff to sample Ward 2A to see if they could find M. chelonae.

Q At that point Ward 2A was

empty?

A It was empty, but we found M. chelonae.

Q Where in the ward did you find it?

A Multiple outlets from taps and showers.

Q That would be inside the filters, as it were?

A There were no filters at that time because the ward had been vacated.

Q Thank you. Now, the next topic returns to your statement. Page 292, please. I think, if we look at page 292, paragraph 932, this is a discussion of the HPS October 2019 report, and you absorbed that the source of information that was being used by HPS interpreting the data was wrong:

> "They were using the wrong methodology tool to demonstrate what they were trying to demonstrate. If it had been interpreted in a different way, I think it might have been more accurate. In my view, this had led to a false conclusion about what is an acceptable limit of environmental infection."

Now, if I understand it correctly, your main criticism is the use of the SPC chart.

A Yes, that's correct, nothing else.

Q Yes, but would it not be fair to say that SPC chart in context – and particularly in this case, in the context of epi curves and discussion of diversity of organisms, one of which we just looked at – actually can be a useful tool when taken together and viewed in context with care?

A I think I would still go back to what I've explained before about their use for organisms that are not endemic and the difficulty with, in that case, detecting an outbreak accurately, and I was-- I would be concerned if we had an SPC chart for gram-negative bacteria because that doesn't tell me anything about the nature of the bacteria.

I can see why HPS would have used SPC charts at the time because they were a methodology that we were all familiar with for these other organisms and, actually, we don't actually know what the correct chart or tool is for these environmental organisms.

That is something that I've been involved with in my work in ARHAI, discussing with the data and epi team as to what sort of chart, if any, is appropriate for the situation where you have environmental organisms. That needs further work and it needs input from statisticians and epidemiologists. So, I

understand why they use them, but I still don't feel that they were the most appropriate tool at the time.

Q Are you able to tell us what would have been the most appropriate tool?

A We're still working on that, but we were creating our environmental dashboard, which we're currently trialling with two health boards, which is based on triggers, which we've mentioned as part of this Inquiry before, and similar to the triggers that I had set up back in 2016. So we are currently running this and seeking feedback from the boards involved as to whether the triggers might be a more sensitive method than using SPC charts.

Q So would it be fair to say that, if SPC charts and their use by HPS at this point had their flaw, in their defence, there wasn't really an alternative available?

A Yes, I accept that.

Q Right. Now, we can then turn to the topic which I'm afraid we didn't discuss, but we can deal with it, I think, relatively promptly, which is the question of prophylaxis and their use for children at the time, once the water incident had sort of become established in people's minds within the hospital as an issue. What view would you take of the reality that, in some cases, we had children on

additional antibiotics for six or seven months? Is that something that is acceptable?

A No, and I think that's a symptom of the built environment at the time and the risk to patients. I mean, prophylaxis, for some of these patients, will be part of their normal regime depending on the level of immunosuppression and chemotherapy that they're receiving. So, many of them do require to be on antifungals, but we had to extend that and then we had to use more antibacterial prophylaxis, the antibiotic Ciproxin, at the time as well. But it's not acceptable. It's a marker of the risk in the environment.

Q What weight or significance should we accord to the impact on their own flora over a long period of time on these treatments?

A So, with any antibiotic, there will be an impact on the patient's own flora. There is a potential for side effects, as with most drugs. There is the potential for alteration to the gut flora. There is a potential for resistance. So it's always about balance, but the approach we took to it is that patients were reviewed by clinicians on a case-by-case basis to make sure that they should receive the prophylaxis, so not all patients did. It was the higher-risk patient groups that did.

Q Finally, there's some

suggestion-- I think we've heard evidence that some families were unaware of why their children were receiving certain prophylaxes. How would that have come about?

A Usually the clinician looking after the patient would explain why they were on a particular drug. I can't really answer that. I always felt that the clinicians were really open and transparent with the families when we were talking about the incident, but that would have to be a question for them.

Q Thank you. I think I've got no more questions, my Lord.

THE CHAIR: Thank you, Mr Mackintosh. Dr Inkster, that is the end of your evidence, and that means you're free to go, but before you do, can I thank you for your attendance today, your attendance yesterday and the clearly considerable work that must have gone into preparing your witness statement, which, as Mr Mackintosh has explained, we have read, we may read again and-- in fact, we will read again and is part of the evidence that you've provided to the Inquiry. But, as I say, you're free to go, and thank you very much.

A Thank you.

(The witness withdrew)

THE CHAIR: Now, Mr Mackintosh, I think it's Mr Connal tomorrow?

MR MACKINTOSH: Mr Connal tomorrow for Sandra Devine, the associate nurse director.

THE CHAIR: Right, and again, we're scheduled to begin at, all being well, ten o'clock.

MR MACKINTOSH: Indeed.

THE CHAIR: Yes.

(Session ends)

16:34