Wednesday, 9 October 2024

(10.00 am)

(Proceedings delayed)

(10.05 am)

LADY JUSTICE THIRLWALL: Good morning, everyone, I'm sorry for the slightly delayed start. There's been a slight rearrangement of the witness order, which I'll leave Mr De La Poer to tell you about.

MR DE LA POER: My Lady, thank you. Yes, in a change to what was published, our first witness today will be Dr Anna Milan, please.

DR ANNA MILAN (sworn)

Questions by MR DE LA POER

LADY JUSTICE THIRLWALL: Do sit down, Anna Milan. Mr De La Poer.

MR DE LA POER: Please could you give us your full name.

A. Anna Margaret Milan.

Q. And, Dr Milan, can you confirm for us, please, that on 15 May of this year you provided the Inquiry with a witness statement?

A. I did, yes.

Q. And are the contents of that witness statement true to the best of your knowledge and belief?

A. They are, yes.

Q. I start by introducing you. Following a period of university and formal training, did you qualify as a clinical scientist in 2008?

A. I did, yes.

Q. And did you take up the role of principal clinical scientist at that time?

A. I took up the role of senior in 2008 and then principal in 2011.

Q. Thank you. Along the way to becoming the principal clinical scientist, did you obtain membership of the Royal College of Pathologists in 2009?

A. I did. It's in two parts, so I completed the full fellowship by 2011.

Q. Thank you. Then, as you've have told us, you took up the position of Principal Clinical Scientist in 2011 and to bring us up to date, in 2017, did you get appointed to the role of Consultant Clinical Scientist?

A. I did, yes, at Liverpool.

Q. And all of these posts that we've discussed, were they at the Liverpool Clinical Laboratories?

A. They are, yes.

Q. And the Liverpool Clinical Laboratories form part of the Liverpool University Hospital NHS Foundation Trust; is that correct?

A. They do. They do.

Q. And so that we are clear, you are a doctor of biochemistry rather than a medical doctor; is that right?

A. That's correct, yes, via PhD.

Q. Now, in 2015/2016, as you've told us, you were a principal clinical scientist. Were you one of three?

A. I was, yes.

Q. Also within your team, did you have anybody above you?

A. Yes, there was a Consultant above who's clinical lead.

Q. And below you?

A. Yes, so previous bands similar to what I'd been, so there's more senior clinical scientists below and then trainees.

Q. And together were you a team of 13?

A. We were, yes.

Q. Now, I'd like to ask you, please, about Child F, and we'll begin, please, by bringing up on screen INQ0000861. That's a screenshot that you're familiar with, I believe.

A. It is, yes.

Q. Let's just introduce some of the elements of this. Was it your role and that of your colleagues at the Liverpool Clinical Laboratories to undertake testing

on blood from other hospitals?

A. Yes. So we're a large referral centre, so we get -- we get all the Liverpool work but we also take referral work in from all across the UK.

Q. And was there an agreement at the time with the Countess of Chester Hospital that certain blood testing would be referred to you but for their benefit?

A. Yes, so every hospital has the choice of where they want to refer work, but Chester chose to send any tests that they didn't offer to Liverpool.

Q. Is it your understanding that a test identifying the level of insulin and C-peptide was one of the tests that was referred to Liverpool?

A. That's correct, yes.

Q. Just help us to understand that test. We don't need to go deep into the science here but is there something particularly complex or time-consuming about that test that means that a district hospital wouldn't be the obvious place to do it and a large centre like yours would be?

A. It's not a frequently requested test, so people tend to work with efficiency, so as a referral centre we would offer the assay and then smaller laboratories would send the work into ourselves. We don't get a large workload. We're largely an adult

hospital. There is in Liverpool Alder Hey, so they would offer paediatric service to the Liverpool region. So it was -- it's run on a -- on an ad hoc basis, or it was.

Q. And in terms of a request to test both the insulin level and the C-peptide level in the blood, which was the part of the request that Liverpool received, for Child F, what would you be expecting a clinician to want to learn from that test?

A. So there's always -- any test that's requested there should always be a benefit to the patient. So if -- as we know, this child was hypoglycaemia or hypoglycaemic they want to try and investigate the cause of it, so performing a C-peptide and insulin is one of the differentials to help understand the mechanism for that hypoglycaemia.

Q. So you would expect that that test would be requested when a child was hypoglycaemic?

A. Yes.

LADY JUSTICE THIRLWALL: Just can you explain what that means.

A. Yes, sorry. So that's a low glucose, so glucose below the reference range.

MR DE LA POER: Sometimes referred to as low blood sugar --

A. Yes.

Q. -- in ordinary life.

A. In ordinary life.

Q. So you wouldn't expect that request to be made if a child or patient had high blood sugar or was hyperglycaemic?

A. Generally it's not in a child.

Q. And so the starting point is that you as the laboratory will be working on the assumption that the patient is likely to have been hypoglycaemic at the time that the test was requested and the blood taken?

A. Yes, we would never assume. We would always try and hope that there's clinical details provided with the test, and obviously with it being a referral test we'd hope that that would cascade through the local laboratory to be passed through to us.

Q. Of course. Perhaps assumption but that would be your working hypothesis?

A. Yes.

Q. Obviously requiring to be checked before any proper interpretation is made?

A. Absolutely, yes.

Q. And here, if we look at this screenshot, we can see at the top that it was -- top left-hand corner -- collected on 5 August 2017 at 17.56?

A. Yes.

Q. And then we have some further dates, C-peptide at 6 August 16.15 and insulin at 6 August at 16.15.

What are those dates references to, please?

A. So those are when we receive that sample at Liverpool. So the sample would have been sent from the Chester laboratory to ourselves and because it was collected probably at the end of the day, they wouldn't have sent that over unless it was an urgent request until the next day. So we received it on the 6th in the afternoon.

Q. So within approximately 24 hours of the sample being taken from the patient, it's in your hands at the Liverpool laboratory?

A. It is, yes.

Q. And is, therefore, available to be tested by you?

A. Yes. I mean, we -- we -- at the time in Liverpool we ran these in batches, so this would have been frozen until analysis unless it had been requested as an urgent.

Q. And having looked at the records, have you seen any evidence that this particular sample was requested as urgent?

A. It wasn't, no.

Q. So if we move to the detail of this, we can see that next to C-peptide there's a value, and next to insulin there's a value?

A. Yes.

Q. Can you just talk us through, please, what those two values signify?

A. Yes. So for the C-peptide, the units haven't appeared on this screen but it was undetectable, so the bottom of our measuring range, so the lowest we could accurately report, was 169, so this was below that and that's in picomoles per litre, that's the units for C-peptide. So it could have been 165, it could have been zero. We could not quantitate below that level at that time.

For the insulin it's reported in two units, so the one that the arrow is pointing to is -- or the first arrow, sorry, is the milli-international units. And then the second one with the SI is the picomoles per litre units. And it's the picomoles that's used with the C-peptide to look at the ratio of appropriateness.

Q. So the --

A. So it's a very high insulin -- sorry, I interrupted you there.

Q. Not at all, it's your evidence so tell us --

A. Yes, so it's a very high insulin of 4,657

picomoles per litre and undetectable C-peptide.

Q. Now, if we have a look at another screenshot that we have, INQ0000862. We'll just speak to the other end of the process in Liverpool.

A. Yes.

Q. That -- that records the sample arriving and the times and the dates. Obviously it records the results. Presumably they're populated into that screen once they become available?

A. Yes.

Q. And do we know from this screenshot that we're looking at on screen that they became available to the Liverpool laboratory on the 12th; is that right?

A. That's correct, yes, so we didn't analyse them the day we received them. They were analysed on 12 August.

Q. Just help us with the time frame there. Some people may be thinking that feels like quite a long time for an important or potentially important blood result. Was that in accordance with the agreement that you had at the time? Did this result take longer than you would have expected? Was this fast for what you were doing at the time? Help us, please.

A. Yes, so for a routine request this was appropriate. So we used to run these -- we used to be

in an older building, it's now knocked down but -- so we used to run insulin and C-peptides twice a week. So depending on where the weekend sat, depending on what time samples were received, they would be prepared and run in a batch, and so this was within our appropriate time frame for a routine request.

If we get urgent requests we can expedite them and run them the day that we get them if requested.

Q. And let's just have a look at some of the information that we can see recorded here. Now, the first thing to say is that this wasn't you dealing with this particular entry that was a colleague of yours.

A. It was, yes.

Q. We know what the results were, we saw those on the previous screen, but the advice/information, which is recorded at on 12 August 2015 at 16.40 "Low C-Peptide to insulin" --

A. Yes.

Q. -- and then "? Exogenous".

A. (Nods).

Q. So now we just need to understand a little bit more about that ratio.

A. Yes.

Q. And you're very much the expert in the room on this. So tell us, please, what the significance or

potential significance is of having a very high level of insulin and an undetectable level of C-peptide?

A. So when insulin's formed in the body it's formed from a precursor, so it's a molecule that contains insulin but it's got parts of it that stop it being reactive. So once it's cleaved in the body you get one C-peptide and one insulin.

So in health it's equamolarly produced, so equal portions, and insulin has a very short half-life, whereas C-peptide has a longer half-life, so it hangs around for longer.

If the normal ratio in health should be that C-peptide to insulin has a ratio of about 10 to 1, sometimes that can be 5 to 1, depending on metabolism. In this case it was the other way round. So insulin is extremely high with an undetectable C-peptide. So that points to the fact that this wasn't produced by the body and so the primary differential is exogenous insulin administration.

Q. When you say primary differential, is that a -- can that be put another way, that your first thought will be that it is likely to be?

A. Yes, yes.

Q. So just to go back over that so it's absolutely clear, you would expect there to be more

C-peptide than insulin if the body had produced it naturally?

A. Absolutely, yes.

Q. And, as you've told us, this is the reverse. And, of course, as we've established, the working hypothesis to be checked is that this result would only have been -- or only likely to have been requested if the child had low blood sugar, was hypoglycaemic?

A. Yes, and querying what the cause of that could be.

Q. And so if we just start to put all of this together in the minds of the informed lab scientist, it is likely, although it needs to be checked, the child had low blood sugar --

A. Yes.

Q. -- hypoglycaemic, and it is likely that they have been administered insulin.

A. Yes.

Q. Now, insulin is given to patients who are hyperglycaemic; is that right?

A. That's correct.

Q. And the purpose of it is to bring the blood sugar down.

A. Yes.

Q. And so does it follow, then, that you would

not ordinarily expect that a child would be receiving insulin and be hypoglycaemic or have a low blood sugar?
A. That would be the correct assumption, it shouldn't be in that situation. Not in an insulin that level particularly.
Q. And so to the informed lab scientist, does that give rise to three -- one of three likely scenarios, (1) that too much insulin has been administered, in other words that the child was originally hyperglycaemic but they've been given such a lot of insulin that it has made them hypoglycaemic?
A. Yes.
Q. So potentially a medication error, too much insulin has been given?
A. Yes.
Q. Or the child shouldn't have received insulin at all and someone has accidentally given them insulin, in other words perhaps because they thought they were giving it to that baby when they'd misidentified who needed it, so also a potential medical error; is that right?
A. It could be, yes.
Q. Or the third scenario, that somebody has deliberately given insulin to a child who they knew didn't need it?

A. That could be the case as well, yes.
Q. Yes. But in terms of the likely explanations for this, are those the three that will spring to mind?
A. Yes. I mean, obviously you wouldn't always err on the side of suspicion, you would think that it's been -- they've overshot by giving too much insulin.
Q. But that may still be a medical error?
A. Yes.
Q. So whilst your mind might not -- within those three possibilities you might be tending towards one just because that's your natural way of thinking about it --
A. Yes.
Q. -- in the best case it's a potential medical error, and in the worst case it is somebody has tried to harm or kill?
A. Potentially, yes. Yes.
Q. And is that in fact really what a competent clinical scientist should be thinking when they see results like that?
A. So when you see results -- that's why it warranted a phone call to Chester because -- just to expedite that information to the clinical team.
Q. Now, I just want to have a look at that telephone call. Within the lab you operate under

guidance issued by the Royal College of Pathologists; is that right?
A. We do, yes.
Q. And is it the position that that guidance at the time, and I think still now, but at the time did not have a protocol for whether a phone call was needed in this sort of scenario?
A. That's correct, yes, it's not in the guidelines.
Q. It's not in the guidance?
A. No.
Q. But within your laboratory you're not slaves to the guidance, are you?
A. You can't be.
Q. No. You are expected to exercise clinical judgment as well?
A. That's what our training and role is, yes.
Q. And here what is quite apparent is that your colleague has exercised that clinical judgment and rather than just putting the results in the post for them to arrive whenever they do back at the Countess of Chester, they've picked up the phone and spoken to someone.
A. They have, yes.
Q. And just help us with the way in which that

conversation would go. So obviously this is experienced and knowledgeable professional to experienced and knowledgeable professional, so I'm sure they're not speaking in the terms that I am to you, but how would you expect that conversation to go?
A. Yes, so the -- the biochemist that rang this result through, if it had been myself would have been done the same thing. We'd have, first of all, just double-checked that the glucose was low at the time this sample was taken.
Q. Can I just stop you there. Did you have that information available to you?
A. Not -- not when we actually authorised the result, but when we spoke to them we were told they were hypoglycaemic at the time.
Q. Yes, thank you.
A. So that -- that sort of cements the comment that's been put on there. So we would then say, "Well, actually we are concerned about this result, there is a very high insulin with undetectable C-peptide, it suggests there's exogenous insulin present, it's now for you guys to discuss it with the clinical team at Chester." And by clinical team I mean the patient -- the doctors on the wards.
Q. And, again, from the colleague who's receiving

this information, who is, like you, also an expert in it, would you expect that they would be thinking with that information the same three possibilities that at best this may be a clinical error, at worst this is somebody trying to harm a patient?

A. Yeah. I mean, like I said, we always err on the side of unsuspicious, so it would have -- it would have just been that they think it's -- it's an error and it needs investigation.

Q. You say that you err on the side of not suspicious, but isn't the correct way to look at this that there is a risk and that that risk needs to be addressed immediately?

A. Yeah. I mean, the risk is to the child being still hypoglycaemic. Obviously this is quite a few days later, so we would hope that they weren't. But it was really just to start investigating the causes of how that had occurred.

Q. Well, quite. Because even if too much insulin had been administered and caused the child to enter a hypoglycaemic state, you would still expect there to be a thorough investigation of that because perhaps someone's written the wrong prescription for insulin or perhaps somebody has picked up the wrong level, the wrong amount. So there are potentially systemic

problems that need to be addressed, even if the child is now well.

A. Yeah, and that should be the response of a team to that result.

Q. Now, let's just be very clear about it. The team, who do you mean?

A. Sorry, yes, the team that are looking after that child.

Q. So are you excluding from that the biochemist at Chester or are they part of the team?

A. So from the sort of biochemistry point of view obviously we've put an additional comment on there about further investigations but it's more what is the current state of that patient and do they need further investigations. That's where the role of the laboratory would aim, but most of it is in dissemination of that to the clinical team looking after the patient so that they can then decide the next coarse of action.

Q. Well, let's just address the further investigation that is proposed:

"Suggest send sample to Guildford for exogenous insulin. "

Now, that is advice being given to the biochemist at Chester; is that right?

A. Yes, to pass on to the clinical team on the

wards.

Q. Why would it be for the clinical team to judge whether a further test is required at Guildford as opposed to the biochemist?

A. So generally if a test is going to be undertaken there has to be a benefit to the patient. So we wouldn't know at the time of authorising this -- or the Chester team might -- what the current clinical status was of that patient. So it's important that if you're going to undertake a test it has an impact on the patient's management.

Q. And why Guildford?

A. So Guildford is a specialist referral lab in the UK. It's the only one that does specialist insulin testing. And even they don't test for different types of insulin.

But as everybody in the UK measures insulin, we all do it by a test called an immunoassay, and there's obviously been issues suggested around that because it cannot distinguish between exogenous and endogenous. However, with using a C-peptide that helps your differential, it gives you the robust nature of your test to say that it's exogenous. But what we'd want to do is eliminate any other potential interference if it didn't fit the clinical situation.

Now, if that baby hadn't been hypoglycaemic, then this wouldn't have fit, so it would have to have been further investigated. But as it fitted clinically, whilst we put that comment on there, I don't know of anybody that's actually referred for exogenous insulin testing. And actually Guildford don't do it, they send to Germany. So nobody in UK offers a test which can say this is a certain brand of insulin.

Q. So, in other words, looking at the molecule and determining whether it is synthetic or naturally produced?

A. Yes. Yeah.

Q. And so if this had been you making this call, would you have seen any benefit in sending the sample to Guildford, or for the purpose the benefit of the patient did you have enough information already?

A. We had enough information already. So we knew the clinical state. We knew these results provided the cause of the hypoglycaemia, which had resolved at the time that the result was telephoned through. So additional testing wouldn't have made any difference to the clinical management of that patient.

Q. And there was -- you have a quality assurance process within your laboratory, which we don't need to go into the daily of, but the headline is this,

Dr Milan, is this right that you wouldn't -- your laboratory wouldn't have phoned through a result that they weren't satisfied was accurate?

A. We wouldn't have even measured the sample if we weren't sure that the analyser was performing appropriately that day. And then with the results, we have to double-check that the -- it's a quality control procedure before we even release a result on to an electronic system to be communicated.

Q. So let's just have a look at the other end just for your comment. So we're going to look and see how this is recorded on the ward.

If we go to INQ0000859. We're going to go to page 334, please. Now, it may just be my eyesight but I suspect we need to crop into that a little.

LADY JUSTICE THIRLWALL: It's a bit of a challenge.

MR DE LA POER: So 334. That was what I was expecting. Thank you very much indeed.

So, again, this is something that you have had an opportunity to see in advance of today; is that right?

A. Yeah, only just for this Inquiry. I haven't seen it before that.

Q. And, of course, it wouldn't be ordinary practice for you to see the ward notes in Liverpool.

A. No.

Q. And so far as you can tell, let's see if we can interpret these results. If we look towards the bottom, we've got results telephoned by Con Lewe --

A. Yes.

Q. -- at 16.49.

A. Yes, so even though it wasn't recorded on the previous screen, my colleague must have phoned it to Dr Emma Lewis who was working at Chester, and she's phoned through to the ward then.

Q. And if we consider the timings, that phone call is nine minutes after the phone call from your lab to the laboratory at Chester?

A. Correct.

Q. And just looking at what's recorded on there, are you satisfied that the results obtained by your lab have been accurately captured on that document?

A. Yes, I am, yes.

Q. I think the ratio is recorded as 0.0.

A. Yes, it's an IT glitch unfortunately because the insulin -- sorry, because the C-peptide is recorded as less than 169 it doesn't have a number to put into that ratio, so it can't calculate it.

Q. So it defaults to zero?

A. Yes.

Q. But there's nothing misleading about that, because anybody interpreting these results can see what the insulin level is, what the C-peptide level is and the fact that it was at an undetectable level --

A. Yes.

Q. -- and so that's not going to lead to any confusion in an informed person, is it?

A. No, and it's actually got an L by it, so it's indicating that it's low, and there is a reference range there for that ratio. It's not come up very clear on this but it does say 5 to 10, which is the ratio that we would expect.

Q. So, again, to an informed person this is a very low ratio --

A. Yes.

Q. -- a long way outside of the normal range?

A. (Nods).

Q. Now, we'll just, finally, look at what is recorded in the clinical notes, and obviously this is two steps removed from your laboratory, but let's just check, from your point of view, using your expertise, what's been recorded. The same INQ page 39, please.

Again, the system is just catching up.

A. That's okay.

Q. Again, you will -- this will be very familiar

to you once it comes up on to screen. They're handwritten medical notes. That appears to be the correct page but it's in fact lower down that we want to see, please.

There we are. Thank you very much indeed.

So, again, just using your expertise, please, Dr Milan, the results that came from your lab, are you satisfied that the person writing these notes has correctly identified the relevant parts of the printout sheet that we just looked at?

A. Yes, I am. They've used the correct form of the insulins, they've used the right SR units value, which is the 4657. They've recorded that as high. The C-peptide, even though they've called it insulin C-peptide it should be clear that's just C-peptide as low, and they've put the less than sign in. And then the ratio they have got is zero. And I think that's a down arrow of lowness, but it's missing half an arrow.

Q. And we've then got "Discussed with Dr ZA", so that's the person making the entry:

"Insulin high. C-peptide low. Unusual for hypoglycaemia."

Again, a correct interpretation of the results?

A. Yes, and obviously they will know on the ward whether they've been given insulin or not. So the fact

that they've put "unusual for hypoglycaemia" would infer that they didn't give them insulin.

Q. Thank you. We can take that down. We're going to just pause now and consider the responsibility of everybody in this chain of events.

Accepting entirely that the clinicians have a very big responsibility in this situation, not least because they have access to the notes, they were the ones who commissioned the test, and they are the ones who ultimately can check whether insulin was prescribed, and if so whether the correct amount of insulin was prescribed.

A. Yes.

Q. But if we take a step before that, looking at the role of the in-house laboratory, your colleagues there will have a very high level of expertise in the interpretation of such results, won't they?

A. They should do, yes. I mean, they've done the same exams, which is as part of your professional examination you look at all anolytes, even tests that you don't offer routinely.

Q. And, again, they will have their own protocols, and I'm sure you will feel a little uncomfortable commenting upon what another organisation should do, but I'm here looking at the professional

responsibility of someone like you.

A. Yes.

Q. How important is it that the person who is speaking to the ward makes absolutely clear that it is likely that there is some kind of medical problem here with these results?

A. I mean, that's vital. I mean, the reason we rang it was to try and emphasise that, and so the message has been translated because we can see that it's gone -- transcribed through to the notes, so it's very important that that message is narrated to the clinical team via that liaison with Chester.

Q. And this isn't a very common state of affairs, is it --

A. No.

Q. -- that a hypoglycaemic child will have very high insulin and very low C-peptide?

A. Very uncommon.

Q. And so from the point of view of alarm bells, red flags, whatever you want to -- that should stick with the person as being, "I really need to make sure that this is communicated, taken seriously and acted upon"?

A. Yes.

Q. And you would agree that that is the

responsibility of the professional person in the in-house lab communicating to the ward?

A. It's the whole chain. It's our responsibility to make sure Chester get that from ourselves and then it's the closing the loop then back to the clinical team from the Chester laboratory.

Q. Because, do you agree, this is potentially a safeguarding issue?

A. Safeguarding, yes, but obviously that's a very much a clinical decision because we don't have the information available. For us it's a blood test, it's a clinical case, but for them they have all the details. So if you were on the ward with those results that is -- that would be considered a safeguarding issue, yes.

Q. While you say you don't have all the details, safeguarding, do you agree, is premised on the idea that if there may be a risk, action is required?

A. It is, but obviously we don't have all the information to determine that full risk, and that risk does rest with the clinical team.

Q. Do you think back in 2015, when dealing with results of this nature, that because of that safeguarding risk, there needed to be greater resilience built into this chain of communication to make sure that action and investigation occurred?

A. I think at the time, once we'd analysed the result, that chain was fast. We could have measured it sooner, we could have been informed that it was urgent, and we could have closed that front end of that, so that result actually may have directly impacted on patient care.

Q. But I'm talking about systemic resilience, obviously that's an important part, how quickly it happens, but once you are seized with the knowledge --

A. Yes.

Q. -- isn't it of vital importance that at every stage every person understands their responsibility and that action does result at the end?

A. Absolutely. That's why we have an audit trail.

Q. And for that -- I just want to invite you to consider something, it's again distant from your position by at lowest one step, but do you think that results of that potential significance need to be communicated to the Consultant as opposed to a junior doctor? Do you think that level of resilience is required so that there is a in-person conversation between the person with the greatest knowledge and expertise on the ward as opposed to potentially being passed via junior doctors? Do you have a view on that?

A. It's very difficult because we obviously telephone an awful lot of abnormal and critical results routinely to wards. You'll find that the staff that are the most busy are unable to take those calls because it might mean them leaving a situation where they're more required. So we never have a requirement that we have to speak to the most senior person on the ward. It's just to make sure that you have given that to somebody that clinically understands it.

Q. What about another way of building resilience in, which is that an email goes to the Lead Clinician as well, that they can look at in slower time to make sure that they are checking in with their colleagues to make sure that they haven't overlooked it, because, from what you've told us, there's no two ways about it, this is a highly significant result?

A. Yes. With emails I think there's always a degree of difficulty with that because you've got no feedback on whether that's actually been acknowledged or read, so an email can sit unread in somebody's inbox. So, again, that wouldn't be our primary route of communication.

Q. No, I wasn't suggesting it replaces the telephone call, it's just about -- we know, and there's been a candid recognition of this, that the Consultant

who looked at it, I'm paraphrasing here, considered whether or not that had been deliberately administered and dismissed it as being unthinkable.

A. (Nods).

Q. An error, as she candidly accepted. But what we're looking here is at systemic issues and whether we can build in a situation where that doesn't happen again, and really I'm just seeking your views on --

A. Yeah, I think now obviously IT has really supported laboratory medicine and patients because we do have electronic patient records now. So we don't have paper notes, so it can be recorded and it's always there as a memory so that you can click on results and see them. So I would say that's the best mechanism that it's kept in electronic patient record.

Q. Have you yourself ever had to phone through a result like this?

A. Not an insulin C-peptide, but obviously day in day out, as part of our role, we do phone abnormal results to critical units.

Q. Do you think that it is sufficiently abnormal for somebody in your position that such a telephone call would stick with you?

A. Yes.

Q. Child L, please. INQ0001175. So a familiar

screen here.

A. Yes.

Q. We can interpret this relatively speedily. Collected on 9 April from Child L, received by your laboratory 11 April. So this time two days rather than one but --

A. Yes.

Q. -- presumably that just depends on the post and --

A. They're transported by vehicle, samples are to us, especially for an insulin C-peptide because they have to be sent chilled. So it would have been stored and processed appropriately and then sent when the next transport.

Q. Now, here, am I right, you tell me, we have a C-peptide level that is detectable?

A. Yes. So it's 264 picomoles per litre. So it is above the bottom of that detectable limit.

Q. But is that a low C-peptide level?

A. So it's always about whether it's appropriate for the insulin level. So on its own in isolation in this case you wouldn't be able to interpret it, but in line with that insulin it's inappropriately low again.

Q. Yes. And the insulin figure we're here focusing on is the lower one, the 1,099; is that right?

A. It is.

Q. And, again, you are expecting that top number to be 5 or 10 times bigger than that bottom number?

A. Absolutely, yes.

Q. So, I hope I get the maths right, 5,000 or 10,000?

A. Yes.

Q. Now, we have a note at the bottom of this screen:

"Difficult to interpret without concurrent glucose."

Is that simply because in your lab you didn't have the glucose?

A. Yes. So we never undertake the glucose analysis. That would have been done -- and it could have been done via various mechanisms. They use point of care glucose, which is where you do it on a heel prick on the ward or a lab-based glucose, and we didn't have evidence of either of those with this request.

Q. But just putting yourself in the minds of the clinicians and why they would ask for such a test -- again, this is the working hypothesis --

A. Yes.

Q. -- you would have expected them to have done that heel prick test, discovered the child was

hypoglycaemic and requested the test, that's the ordinary sequence of events?

A. Yes, absolutely. I mean, the -- the only way to be able to interpret this is if it was taken at the time of hypoglycaemia. But, again, we don't assume. We would like to see the result to make that a definitive interpretation.

Q. And are you -- you're satisfied, then, that if the child was hypoglycaemic then the results were inappropriate?

A. Correct.

Q. And did you have any involvement in telephoning this result through?

A. No, this was one of my colleagues again.

Q. But, again, this was a result that you've looked at the records and you're satisfied that it was communicated the same day?

A. Yes.

Q. So although the ratio is slightly different, this is, as before, stepping outside of the ordinary protocol of just putting it in the post, sending it back saying, "This is abnormal"?

A. Yes.

Q. And would you expect a similar conversation to the one that you've told us about from your colleague to

the biochemist at the Countess of Chester?

A. Yes, I would.

Q. "Tell me what the -- the glucose level is"; right?

A. Therefore -- yeah, "Therefore, this is our interpretation", and they would then communicate that to the ward.

Q. Well, we're going to hear from the scientist who dealt with this call potentially later today or next week. But just help us, if the child was slightly above the hypoglycaemic range, would this result still be a cause for concern?

A. Just because of the -- the reversal of that ratio, yes, it would.

Q. So it doesn't need to be bang within the hypoglycaemic range for you to look at those numbers as a professional and say, as before, someone's -- may have given them too much, someone may have given them insulin when they didn't need it, or someone may have deliberately administered insulin to harm them?

A. Yes, and the fact that there's a detectable C-peptide means at some stage that child has made its own insulin because the C-peptide will be there for longer than insulin.

Q. So this is the residual half-life --

A. Yes.

Q. -- for C-peptide, which you've told us is longer --

A. Yes.

Q. -- and so you would expect there to be some C-peptide still in the system --

A. Yes.

Q. -- even if not produced at the time of the test?

A. Yes.

Q. Dr Milan, I just wanted to ask you about now, please, and the future.

You tell us in your witness statement that the new facilities are now giving you a real-time opportunity. Can you just tell us what that -- what that means in ordinary language?

A. Yes. So -- I mean, our old facilities we'd outgrown them, which is why some assays were kept and run offline. But now we've got a purpose-built laboratory. Every sample is run in real-time that comes in for tests, for example like insulin and C-peptide. So as soon as we get a sample it will be through the lab that same day and a result available either at the end of that day or the first thing the next morning. So we have improved process for turnaround time.

We have also brought in a process where Chester now send us the glucose result on the request so that we can make sure that our interpretation is appropriate on any additional insulin C-peptide requests.

Q. So when you say "on request", does that mean that they tell you what the result is when they ask for the test or do you have to go back to them?

A. They actually -- I mean it's old-fashioned but they write it on the request form for us. So we actually enter that in our system, so we've got a full profile then to be able to interpret that accordingly.

Q. Why do you think, given the potential significance of this, that that -- the old system required you only to have two-thirds of the picture and then have to make a phone call to know whether there was a problem?

A. I guess sometimes it takes a situation for things to improve, and it's always about service improvement, and that's what we're always striving for. And I think also, as far as pathology goes, we're working as a network now. That had started. It was in its infancy in 2015/16 but we're working as Cheshire and Merseyside now, so ultimately we're all going to be on one IT system in the future. We say in the future, it could be four/five years off, so we will actually have

full record access across Cheshire and Merseyside, so it will again improve these processes to make sure --

Q. Will that --

A. -- interpretation is appropriate.

Q. Will that allow you to check the ward notes --

A. Yes.

Q. -- to see whether or not insulin has been prescribed?

A. Yes.

Q. And will your protocol mandate that once you have access to it if you get results similar to this?

A. As part of our training anybody, if they get results like that, will want to put an appropriate comment, so we'll look for that and actually check the records before putting a comment on that.

Q. You mentioned that it takes a situation like this to generate change. But we know that a nurse in Stepping Hill used insulin to kill patients, and that was in 2011, tried and sentenced in 2015, so just before.

We know the notorious case of Beverley Allitt who used insulin. Do you think that, in 2015, your lab should have been further ahead with its thinking about how to deal with these results, given those cases?

A. I think as a laboratory -- in laboratory

medicine you are one step back from the patient, so, you know, you don't have that -- that luxury of being able to perhaps review all of the clinical situations on that. But also, again, I suppose it comes back to suspicion. We have one -- we have 3,000 results a day but on that day we had one that's potentially very suspicious, so it's putting in processes for one result out of 3,000.

So it's about adapting to a situation, so maybe. But, again, we don't -- we didn't have processes in place for that.

Q. Was there any discussion within your lab about the Stepping Hill case?

A. Not that I recall, no.

Q. And just looking back on it, bearing in mind that this is your subject area --

A. Mm-hm.

Q. -- the potential, albeit extremely rare, use of drugs as a weapon, does that seem surprising to you that there wasn't training and dissemination of that information given to you as a laboratory saying, "Look, we've had a local" -- because it wasn't a million miles away from your lab --

A. No.

Q. -- "We've a local case of this. It's so

important that we detect this, you all need to be on your guard", does that seem surprising to you now?

A. I mean, hindsight's a wonderful thing and lessons learnt, but obviously we -- we routinely have overdoses of many different anolytes, not just insulin and C-peptide. So we -- it's about having appropriate processes in place, and, no, we didn't.

MR DE LA POER: Dr Milan, thank you very much.

Indeed those are my questions, my Lady. There are no Rule 10 questions for Dr Milan.

LADY JUSTICE THIRLWALL: Thank you very much indeed, Mr De La Poer.

Dr Milan, thank you very much indeed for coming along this morning and for making so much of the science so much clearer for the rest of us. That completes your evidence and you are free to go.

A. Thank you very much.

MR DE LA POER: My Lady, our next witness should not take us too far past our ordinary break at about 11.30, so it may be convenient to deal with that witness now or my Lady could take a break.

LADY JUSTICE THIRLWALL: No, I think we will take the break now so that we can work out precisely what we are going to do, how we're going to order the witnesses for the rest of the day, so we will start again at

quarter past 11.

(10.57 am)

(A short break)

(11.16 am)

LADY JUSTICE THIRLWALL: Mr Bershadski.

MR BERSHADSKI: Good morning, my Lady.

LADY JUSTICE THIRLWALL: Would you like to come up to the desk, please, and take the oath.

KATHRYN ANN DE-BERGER (sworn)

LADY JUSTICE THIRLWALL: Do sit down.

A. Thank you.

Questions by MR BERSHADSKI

MR BERSHADSKI: Good morning.

A. Good morning.

Q. Could you state your full name please?

A. Kathryn Ann De-Beger.

Q. Is it right that you provided the Inquiry with a statement dated 30 May of this year?

A. That's correct.

Q. And are the contents of that statement true and accurate to the best of your knowledge and belief?

A. They are.

Q. Thank you. Is it right Ms De-Beger that you qualified as a nurse in 1985 and started working as an occupational health nurse in 1995?

A. That's correct.
Q. And I think you started working at the Countess of Chester Hospital in the occupational health nursing field from 2001; is that right?
A. I believe it was 2009.
Q. And were you the occupational health --
A. 2009, yes.
Q. And were you the occupational health manager from 2010?
A. I was.
Q. Could you just in a few words summarise for us what your role as an occupational health nurse involved?
A. Okay, so occupational health is all about the physical and mental well-being of all employees in the workplace, so we're concerned with the individual and the effects on health. So it's a unique speciality in that we don't have any patient contact. We are dealing with members of staff that are employed by the Countess. So in essence the staff are our patients.
The role encompasses a variety of different roles, I suppose, but one of them is seeing staff that are being managed under HR policies, management policies. So although occupational health is totally independent and impartial, we do sit under HR but we don't have any influence on the application or the decision-making of

any HR policies. We are there to support and give advice to members of staff going through those policies in a very independent, impartial manner and non-judgmental.
Q. Thank you for that, Ms De-Beger. You say in your statement that you were first asked to provide some support to Letby in July 2016; is that right?
A. That's correct.
Q. Now, if I could ask for a document up on the screen, this is the referral, as I understand it, which your department would have received, that's 0018046.
Thank you. Do you recognise this document, Ms De-Beger?
A. I do recognise that document.
Q. Now, can you just help us, would that document have come in directly to you or to your department more generally?
A. That would have come directly to the department.
Q. Would you have read it?
A. I believe I did because I believe that's my writing at the top that says "Nurse appointment".
Q. Thank you. We can see under "Reason for Referral" -- now, that presumably would have been completed by the person mistaking the referral to you?

A. (Nods).
Q. In this case that was Eirian Powell; is that right?
A. I believe it was.
Q. Thank you. And I think it says there:
"As I mentioned to you on the phone ..."
So would that have been a conversation between yourself on the phone with Eirian Powell or somebody else?
A. That reason for referral would have been written by Eirian.
Q. Yes. And it goes on to say:
"I requested that Lucy come to the Occupational Health Department for support especially in view of the proposed allegation that will evidently come to light."
Do you recall what was said to you about "the proposed allegation that will evidently come to light" at this point?
A. No, that would have been all the information we received that's written on this referral. But this referral isn't the first time that I would have met Lucy Letby. I met her earlier than when -- this referral.
Q. Right. So this referral we can see at the top is dated 30 June --

A. Yes.
Q. -- 2 -- well, it says "2916", I think presumably that's 30 June 2016. When would you have --
A. So --
Q. -- met --
A. So the appointment for this, as you can see, is Thursday, 21 July.
Q. Yes.
A. But I saw Lucy Letby, I believe -- well, I can't remember without looking at my notes, but I believe it was the week before.
Q. So the week before the appointment?
A. Yes.
Q. So after you received this form, presumably?
A. Yes, but I probably wouldn't have known about that form when I first saw Lucy Letby.
Q. Okay.
A. Lucy Letby was brought to the department by her manager, and that was when I first saw her.
Q. And do you think at that point you would have been given some information in however broad terms about the proposed allegation that will evidently come to light?
A. No, none whatsoever.
Q. So would you have known that there was

a proposed allegation that will evidently come to light?
A. At the appointment I saw her about -- around about the 14th or 16th of July I was not told -- I was not told what the allegations were, no.
Q. Okay. So you would have known that there was some sort of allegation but not what it was?
A. No, I only knew that there was an investigation on the neonatal unit and Lucy was on restricted practice and so that's why they brought her down to me.
Q. Okay. If I could, please, turn up another document on the screen, this is 0003174. If we can go to page 30 -- sorry, to page 29 of that, please. You can see an email here, on page 29, of 8 July 2016. And if we just go over a couple of pages to page 31, towards the bottom there, can you see where it says "Sue Hodkinson", can you just tell the Inquiry who that was?
A. Sue Hodkinson was the Executive Director of HR and my direct line manager.
Q. Yes. And so it says there:
"Sue Hodkinson updated at 1.40 pm Kathryn De-Beger and Katie Holstrum have visited the NNU at 12.15 pm today. Team spoken with. Shift leader spoken with. No immediate support put in place but team feel

vulnerable."
Do you recall visiting the neonatal unit on or around 8 July 2016?
A. I have no direct recollection of visiting on this particular day, but Occupational Health did visit various wards and departments throughout the hospital on a regular planned basis.
Q. Well, do you recall visiting the neonatal unit if not on that specific date then around that time of the summer of 2016?
A. Yes, I do.
Q. And what was the purpose of your visit to the neonatal unit then?
A. So, as I said at the beginning, our role was about the health and well-being of staff, so we would have gone to do a welfare visit to see how the staff were managing and coping.
Q. And what was your understanding of why you were going to see the neonatal unit around that time to see how the staff were coping?
A. Because there was an increase in deaths on the unit and that was under investigation.
Q. Right. So is it fair to say that in around July 2016, you would have known both that there was an increase in neonatal deaths on the neonatal unit and

that Lucy Letby had been redeployed away from the neonatal unit?
A. That's correct.
Q. So would it be fair to say that around July 2016 you would have known that the substance of the allegation against Lucy Letby was that she was -- somehow may have been related to those deaths?
A. No. The reason I -- I would think that she was moved to a non-clinical role was because there -- she was having to redo her competencies and there was the investigation, but no more about accusations around her being involved, no.
Q. So did you make any connection in your mind between the fact that you were visiting the neonatal unit because of deaths and Letby being somebody that you were supporting in particular?
A. Sorry, can you repeat the question?
Q. Did you make any connection in your mind at that time between the fact that the neonatal unit needed support because of increased deaths and that Letby had been redeployed away from that unit?
A. I would have made the connection that Lucy Letby would have been part of the investigation that they were looking at, yes.
Q. Yes. I'm just picking this up because I think

in your statement you suggest at paragraph 10 that it was at some point later after you started providing Letby with support, that you were made aware that the investigation was to do with deaths on the neonatal unit, but I think you're now saying that you would have been aware closer to July 2016, that that was the case?
A. I'm saying that on the very first time I met Lucy Letby on the 14th or 16th of July I was not aware of any connection or that there was an increase in deaths on the unit. But subsequently, later, in my other meetings with her, I was, but I can't pinpoint the time when that might have been.
Q. Okay. And is it right that you started from July 2016 visiting the neonatal unit on a weekly basis to provide the staff there with support in light of the increase in deaths?
A. I don't believe it was a weekly basis but it would have been a regular basis, yes.
Q. Well, just so -- just so that you have it, can I ask for document 0014604, page 24. Yes, just the previous page.
Do you recall speaking to investigators from the Royal College of Paediatrics, the RCPCH team?
A. I didn't recall until I was provided with this evidence for the Inquiry.

Q. I think these are typed notes of an interview with you that they held on 1 September. Again, we've got a slightly odd date there, 1 September 2016, and you can see it just says, three lines up from the bottom:

"Dropped in to see how staff are. Was two to three times years ..."

Presumably that means was two to three times a year:

"... after the problems weekly basis."

A. Yeah, that could have been correct at that time but it wouldn't have been correct for a prolonged period of time. There's no way we could have visited the neonatal unit on a weekly basis for the period of time we're talking about.

Q. So you would have been visiting the NNU on a weekly basis, what, from July 2016 until at least September 2016; is that right?

A. I haven't got any evidence of that but that could be correct.

Q. And did you discuss the increase in deaths of babies on the NNU with staff when you conducted these regular visits?

A. No, I didn't.

Q. So what were you discussing with them?

A. We were discussing their health and well-being

because that's what occupational health is all about.

Q. Thank you. If I could just take you to another document, please, 0101342. We've got an extract of some of the text messages that you exchanged with Lucy Letby there.

Would it be fair to say that there was a significant amount of text message and WhatsApp messaging between you and Letby for the period that you were providing her with support?

A. That would be correct.

Q. Now, I don't know, I'm sure you haven't counted them up, but I've estimated around 750 messages may have gone between you over the period of around 15 months. Does that sound about right?

A. That could be right, including all the group messages as well, yes.

Q. And that was a WhatsApp group you're referring to, which I think you were a member of along with Karen Rees, Hayley Cooper and Lucy Letby; is that right?

A. That's correct.

Q. Now, I think you've said in your statement that being part of a WhatsApp group to provide support for a member of staff was not a usual thing for you to do as part of your role; is that right?

A. That's right.

Q. Now, would -- would -- this high amount of direct messaging over texts, would that be a normal part of the kind of support you would provide to a staff member?

A. No, it would not.

Q. If we look at some of the messages, for example if we start from page 18 of that document that's on screen, please. Towards the top there, there's a discussion of going out shopping in Liverpool.

Over the page, on page 19, I think we can see some continued discussions about shopping, about family matters, an upcoming wedding.

And over the page, on page 20, some discussion about cooking.

Would it be usual for you to be having these sorts of discussions about personal extraneous matters with a member of staff that you were supporting that was going through an HR process of some sort?

A. No, it wouldn't be normal at all. As I say, I've not been in contact in a WhatsApp group with any other member of staff, but I've not been supporting staff in this situation ever before and I felt at the time that I was the only support that Lucy Letby had.

I was given that role by the Trust to support her, to support her mental health, to support her well-being

going through what I thought at the time was a very distressing situation, and it was given to me to support her the best that I could and keep her in work, to maintain her mental health during that period, and I felt that fell just on me.

So in order to do that, I did that to the best of my ability, and that was why there were so many messages to try and make sure that she was okay. And all the messages can't be about mindfulness and coping strategies to keep her grounded and to keep her in moment, it was about normally events as well.

Q. If we go to page 24, please, of those messages. You say to her -- and I think the green message will be one from you; is that right?

A. It will be but, I can't read it on the screen.

LADY JUSTICE THIRLWALL: Neither can I.

MR BERSHADSKI: The screens aren't always the best quality. I'll read out the relevant bit.

A. Thank you.

Q. You say to her:

"We are supporting all the staff. I was on the unit yesterday and will go again Monday but you are my priority."

Why was Letby your priority if you were also tasked with supporting all the members of staff on the neonatal

unit?
A. Because I was the only person that Lucy Letby was seeing. I did have other members of the team that were able to do ward and neonatal unit visits.
Q. You did mention before that you were part of a support group along with Karen Rees and Hayley Cooper on WhatsApp. So would it be fair to say that there were -- you weren't the only member of staff who was supporting Letby at this time; is that fair?
A. That is fair, but in the role that I did I had a very different role to them. So, as you are aware, Hayley Cooper is her Union rep, so she would have advised her on Union matters. Karen Rees was a very senior member of staff who would advise her on other matters, clinical matters maybe. I was the only person, in my view, that was supporting her well-being at that time.
Q. You would have, presumably most of the time, been seeing Letby as part of regular one-to-one Occupational Health support meetings?
A. (Nods).
Q. And they would be -- you would document them in a formal way as part of your work; is that right?
A. That's correct.
Q. Why did you also need, in addition to

providing that regular support documented, to have this extensive informal channel of communication with her, do you think?
A. Because that then enabled Lucy Letby to contact me when she needed to, even if that was outside of my work hours.
Q. You said at the start of your evidence that part of your role as Occupational Health nurse and Occupational Health manager is to provide a completely independent service in effect to a member of staff.
Do you think on reflection and with the benefit of hindsight that having such a significant degree of informal personal contact with a member of staff that you are supporting that that might tend to detract from that independence which you are required to maintain?
A. When I say independence, I mean independence from HR, independence from any policies and procedures. We are just concentrating on that individual member of staff. So in doing this I felt I was going above and beyond my job role, and my job role was given to me by the Trust to support her through this investigation.
Q. I think you've said towards the end of your witness statement that you think it would be useful for there to be -- to have been a bit more guidance for somebody in your role about how to act in that role when

a serious allegation has been made against a member of staff; is that right?
A. That is correct.
Q. With the benefit of hindsight, what do you think -- and as a senior Occupational Health nurse, what do you think the substance of that guidance should have been for how to manage a member of staff in this situation?
A. I do feel there should be guidance on the -- as you're putting it, the amount of time and contact that you have with somebody that's going through this. But at the time, I didn't feel there was any other alternative. There was nobody else to share this with. I had no clinical supervision to talk to this -- with anybody. So I was working to the best of my ability, but there is some learning that could be taken from this, definitely.
Q. I think it's right that you attended one meeting with Letby and her parents where there was an argument between Letby and her parents about how to deal with the process that she was under; is that right?
A. That's correct.
Q. Do you think, again with the benefit of hindsight, that such guidance should prevent you from getting involved with that sort of intra-familial

dispute?
A. So anybody attending an Occupational Health appointment can bring somebody with them. So they can bring their partner and they can bring their Union rep, they can bring their manager. So anybody attending can bring somebody with them for support. So that's not unusual.
Now -- and in this case, Lucy Letby rang me from home asking to see me and ask whether she could bring her mother with her. So I agreed because that is my standard practice.
Q. Is it right that you also had contact on the phone directly with Letby's father?
A. I do not recall any telephone calls with Letby's father.
Q. I think you may have seen that there's a witness who suggests that there was pressure being put on you that you were in effect being harassed by Letby's father. Is that incorrect, then; is that what you're saying?
A. I have no recollection of any telephone calls. I have no recollection of being harassed.
Q. Thank you. Could I ask you to please turn up or to put up on the screen document 0017911 and page 7 of that document, please.

Ms De-Beger, this is an extract from a witness statement that you gave to the police as part of the criminal proceedings. I just want to ask you about one passage of that.

You see in the middle of the page it says:

"Lucy did ask for meetings with me on anniversaries of some of the babies' deaths as she was particularly distressed."

How many times, approximately, did Letby ask you for meetings on anniversaries of the deaths of babies?

A. To my recollection, it was only once.

Q. Did any of the other members of staff that you were supporting on the neonatal unit, nurses in particular, did they ask you for meetings around the anniversaries of the deaths of babies?

A. No.

Q. Is it right, therefore, that Letby's distress around anniversaries of babies was unusual compared to other nurses that you were supporting at the time?

A. I can only take it on that at the meeting that I had with Lucy Letby she spoke about being particularly distressed that week because it was, as she recalled, an anniversary of one of the baby's deaths. But we then would have a meeting that was just about her managing her feelings, her symptoms and talking about coping

strategies.

Q. And so this meeting that she asked for was in July 2017 I think you've said in your police statement?

A. (Nods).

Q. So by that point, would you have known that some of the allegations against Letby was that she had deliberately killed babies on the neonatal unit?

A. That is likely. So I see members of staff who are under an investigation for all sorts of reasons, it could be that they've allegedly committed theft, fraud, been racist, whatever it is, and I offer the staff support, coping strategies, onward referrals throughout the whole of that investigation and until it reaches the conclusion.

Now, the conclusion can be that the person's given a written warning, they're dismissed, or they're actually returned to work. Now, that does not influence what I do in my practice during that investigation with that member of staff because, as I said to you, it's independent, it's impartial and it's non-judgmental. So I would look after staff during that investigation without knowing any of the detail or that detail impacting on what I do.

Q. I think you've said earlier that you've been supporting members of staff since 2010 at the

Countess --

A. Correct.

Q. -- in this role. In that period of time, so from when you started in 2010 until July 2017, how many times had you come across a situation where a member of staff was displaying this kind of distress around the anniversary of the death of a patient, is that at all a normal situation for you to confront?

A. I can't recall another situation, no.

Q. Given that you knew at this time that the allegation was that Letby had deliberately killed babies on the neonatal unit, did it give you any cause for concern that she was displaying this distress at the anniversary of a baby death?

A. No, not at all, because she -- it was in the context of she said that she was feeling particularly distressed but how much more distressed would the parents be at the loss of their baby, that's how she framed it, and -- but we had no other conversation about that.

Q. And if I could just ask one more document to be put up on the screen. This is 0063777. If we go to page 2, so we can follow this chain of emails.

You will see at the bottom Letby emails you on 25 April asking if you'll be around saying that she's

not having a good week and that she's going to Alder Hey the following day, and she's asking you whether you've read some amended minutes of a document.

And you respond on the same day saying:

"I think going to Alder Hey is a good idea. It will be something positive. How was Saturday? Did you go to an event there? I think you should go to Alder Hey regularly, it will give you a little break from the stress here."

Would you have known at this point, so April 2017, that the allegation against Letby is that she killed babies on the neonatal unit?

A. I'm presuming I would have known by then, yes.

Q. Why did you think, in that case, with that knowledge, that Lucy going to Alder Hey would be a good idea and something positive?

A. Because I would of assumed that that was in place and agreed by senior managers, and -- and if it was agreed, which I assumed it was, then to be away from the stress of the Countess would have been a good idea for her health and well-being.

Q. Do you think it fair to say that at this point you would have personally not agreed with the allegation against Letby, that's why you thought it would be a good idea for her to go?

A. Say that again, sorry.
Q. Well, is it fair to say that you, at this point, had taken a view that it was safe for her to go to Alder Hey?
A. That's not my remit at all.
Q. If we go back up the page to follow the chain to page 1. You say to her in your -- in the email at 3.55, just below the middle of the page:
"I understand why you are feeling like you are but you have all the reassurances that the execs and us support you returning to the NNU and that is where you belong."
Why did you feel, at this point, that the Executives were supporting Letby returning to the NNU?
A. Because that's all the information that was -- well, that was the information that was always given to Lucy Letby at our meetings. So at the meetings with Sue Hodkinson, Alison Kelly, Karen Rees, Hayley Cooper and myself the meetings were all about how we could work to returning her to the NNU.
Q. I think you had known by this point that she had been given a management instruction that she wasn't even allowed to visit the NNU; is that right?
A. I don't know whether it was by this time. I haven't got a timeline, but --

Q. Okay. And you reply -- well, she replies to you -- sorry, just up the page -- at 4.07 she says:
"I feel as though this must be my fault and maybe I have done something wrong to the babies and blame myself -- do you think that's normal?"
Do you see that?
A. Yes, I do.
Q. Given you say you knew by this point that the allegation against Letby was that she deliberately killed babies on the neonatal unit, did it give you any cause for concern when you received that email from Letby saying, "I feel as though this must be my fault", et cetera?
A. No, I didn't, because at that time, in April 17, I believe that mediation between the clinicians and Lucy Letby had broken down and she was very distressed about that. Her -- she was -- it was a plan to return her to the neonatal unit at the beginning of April and that had been paused, so she was very upset about that, and this -- I do remember this time being that she was very, very distressed, very confused about why she couldn't go back, why it had been paused when it had been planned that she was going back and she'd been visiting the unit. So I felt that that was an explanation of all those mixed emotions, and

that's what I reply to her on her confusion about what was -- what was happening.
Q. I think you address in your statement that you're aware of safeguarding principles and that if you come into possession of any information that might cause you to think there's a risk to somebody, that you would deal appropriately with that and pass it on; is that fair?
A. That's fair.
Q. And I think you say in your statement that you didn't come across any such information when you were dealing with Letby, hence you didn't initiate any of the safeguarding routes that you were aware of.
With the benefit of hindsight now, knowing that Letby was accused and has been convicted of killing babies on the neonatal unit, do you think that this email from her could have been enough for you to mention it to somebody?
A. No, I don't, because she says "maybe I have done something", she doesn't say she has, and I know that she was very distressed and stressed at that particular time, and all the conversations that we've had previous to this she has always told me that she'd done nothing wrong, why did -- why were people doing this to her? And why did the Consultants hate her so

much? And I heard that many times.
Q. I think you'd said in your statement that you didn't tend to have discussions with Letby about the actual allegations.
A. (Nods).
Q. So is it fair to say you must have had some discussions about the substance of the allegations because you say she was telling you she'd done nothing wrong?
A. So she would tell me she has done nothing wrong and how that made her feel --
Q. Yes.
A. -- but nothing about the babies or deaths.
Q. Just going back to the point you made earlier that you -- it's your wish that there had been some more -- some clearer guidelines about how to provide Occupational Health support to members of staff accused of misconduct, do you think that if there had been such guidance in place you might have acted differently upon receipt of such a message from Letby?
A. I think if I'd had some clinical supervision it might have been something that I would have spoken to them about, yes.
LADY JUSTICE THIRLWALL: Clinical supervision, that's where someone's responsibility is to you and so

you can offload. I know it's called "supervision" but is that what you mean --

A. Yes.

LADY JUSTICE THIRLWALL: -- someone was there for you?

A. Yes, it's like a mentorship or a clinical supervision where you might want to discuss particular cases that you've got and you would -- with somebody that was equally qualified that you would be helped on the way forward with that particular case, yes.

LADY JUSTICE THIRLWALL: I follow, thank you.

MR BERSHADSKI: Thank you, my Lady, those are my questions for Ms De-Beger.

LADY JUSTICE THIRLWALL: Thank you, Mr Bershadski.

Ms De-Beger, I've got no more questions for you. Thank you very much for coming and giving your evidence to us today. You are free to go.

A. Thank you.

LADY JUSTICE THIRLWALL: I think the next witness is going to be ready at 1 o'clock, so I suggest that we take the lunch break now and we will start again at 1 o'clock.

(11.54 am)

(The luncheon adjournment)

(12.59 pm)

LADY JUSTICE THIRLWALL: Mr De La Poer.

MR DE LA POER: My Lady, our final live witness for today is Dr Shirley Bowles, and I wonder if she might come forward to the witness box, please.

LADY JUSTICE THIRLWALL: Yes, Dr Bowles, do come forward.

DR SHIRLEY BOWLES (affirmed)

LADY JUSTICE THIRLWALL: Thank you very much indeed, Dr Bowles, do sit down.

A. Thank you.

Questions by MR DE LA POER

MR DE LA POER: Please could you give us your full name.

A. Dr Shirley Anne Bowles.

Q. Dr Bowles, can you confirm, please, that you provided to Inquiry a witness statement dated 24 May of this year?

A. Yes, I did.

Q. And are the contents of that witness statement true to the best of your knowledge and belief?

A. Yes, they are.

Q. I'll just deal with your background first, if we may.

You qualified as a medical doctor in 1996; is that right?

A. No, '81.

Q. '81, I beg your pardon. And you became a member of the Royal College of Pathologists in 1996?

A. That's correct, yes.

Q. And a fellow in 2004?

A. Yes, that's right.

Q. You are a chartered -- a registered chartered scientist?

A. Yes.

Q. And a member of the Association for Laboratory Medicine?

A. Yes, that's correct.

Q. And you have been on the GMC specialist register for chemical pathology since 17 April 1997?

A. Yes, that's correct.

Q. And you are currently a Consultant chemical pathologist at the Countess of Chester Hospital; is that right?

A. Yes, that's right.

Q. And did you hold that position in 2015/2016?

A. Yes, I've been in that position since 1996.

Q. Dr Bowles, I would like to begin the substance of your evidence by considering your department in 2016. So that department, firstly, is the blood science department; is that right?

A. Yes, that's right.

Q. And in 2016, where did you sit within the hierarchy of that department?

A. I was director of blood sciences.

Q. So at the very top?

A. Well, it's sort of -- yes, I mean, it's a -- I suppose it's where the buck stops with respect to sort of problems in the department, but there are other managers who also are responsible for running the day-to-day.

Q. And were you the sole Consultant chemical pathologist at that time?

A. Yes, I was the only chemical pathologist but there was also a Consultant clinical scientist working alongside me.

Q. And between the two of you, did you share the duty biochemist role?

A. We did, yes.

Q. Just tell us, please, in a nutshell what the duty biochemist role was in 2016?

A. Well, it was on a rota basis, you do a day at a time, and there was a variety of things that would fall under that umbrella, things like reviewing the "send away" lists because when samples were sent away we would review them to see if they all seemed appropriate

in terms of what was being sent and why, but the main bulk of it was to do with looking through the various reports of results.

So there would be two main groups of results. There would be some that had been filed after analysis for us to look at, so they would be some of the more complex tests like hormones, two more markers, et cetera, where it was felt they weren't required for the immediate management of the patient, so they could actually be held back for a -- you know, until the duty biochemist was able to review them, and it could be helpful for comments, et cetera, to be.

And then there was another group of results which we called the exception report, which I instigated, which was results that had already been authorised but we felt should -- would benefit from another review.

So there were often results that were extremely abnormal and fell on to our telephone list, and we would then review them and see -- make sure that they had been telephoned, if that was appropriate, check that if there was any additional investigations could be added because sometimes, for example, if there was a very high calcium we might add a parathyroid hormone to see if we could help determine the cause of that high calcium. And sometimes I would check to see whether the clinical team

had acted on the results. So, for example, if someone had a very high potassium I would look up the patient again and see whether it had been repeated or whether there was anything saying that they'd actually done something about it. So it was a sort of second check of results that had already gone out.

We would also field any phone calls to the lab about anything, any queries about how to investigate patients, et cetera.

Q. In that duty biochemist role, would you be the person being asked for if another laboratory had urgent or abnormal results that they wanted to speak to somebody about in your department?

A. Usually. Occasionally there were relationships perhaps with, for example, some of the clinical scientists a different lab might know Dr Lewis well and they might decide they might have a phone number of and just call her directly, but other times they would just ask to speak to the duty biochemist and then they would be put through to whoever was doing that duty at the time.

Q. In terms of how your department was functioning in 2016, was it able to cope with the demands which were being placed on it, or was it under strain?

A. Oh, it's difficult to say because you always feel you're -- you're stretched. I think we've always felt that they were on the lean side of the staffing spectrum. In terms of the sort of clinical team there were only two of us, so if -- and, for example, on that particular week Dr Lewis was actually on annual leave so I was actually on my own all week, so we would be doing duty biochemist five days as well as doing clinic. So there were times when it did feel a bit pressured but I think there is a feeling in the NHS that you just sort of get on with it really and -- and manage.

Q. I appreciate others have spoken about that attitude in terms of just making do and carrying on, but the week that we're going to be focused upon you've described your colleague being away leaving --

A. Yes.

Q. -- you to do five straight days as duty biochemist on top of your other duties.

A. Yes.

Q. I mean, being realistic about it, was that too much for one person to be doing well or would you say that you, that week, were able to do every aspect of your job well?

A. I would hope I would. I mean, I've got experience to prioritise and I would hope that I would

know what were the important things to do and what were the things that could be left.

But, yes, you would feel busy -- very busy. But, as I say, it was a situation I'd always been in, because in fact when I started at Countess of Chester I didn't even have a clinical scientist, so I was actually on my own. So it's -- it wasn't something that I sort of saw as unusual, and I don't think it's unusual in the NHS. I mean, for sort of the hospitals the size the Countess it would have been quite common to only have a Consultant scientist and the chemical pathologists in that department, so I don't think I saw it as exceptional.

It was busy, I hoped that I managed it well.

Q. Part of your role as duty biochemist, as we understand it, would be to contact the ward or particular departments in the event that certain results justified it.

A. Yes.

Q. Focusing upon the paediatric ward and more specifically the neonatal unit, what was your experience at that time of being able to get hold of a doctor to speak to of sufficient knowledge, authority and experience to talk about results?

A. I have to admit that I don't actually think

that I'd actually had to call the neonatal unit very often because most of the results that were phoned through would have been done by the -- by medical scientists. Most of the sort of every day results like bilirubins or potassiums, et cetera, they would have been done by the people actually analysing the specimens. We had a protocol for telephoning results, and those results that came straight through off the machines would have been phoned by the biomedical scientist.

So the need for myself or Dr Lewis to intervene was probably very infrequent. But, in general, if I had to get hold of people on the wards it was variable as to how successful I would be.

Q. In that the telephone wasn't always answered or that it was answered but the person you wanted to speak to wasn't available or a combination of the two?

A. A combination of the two. It wasn't unusual, particularly at busy times of the day, which would include sort of in the morning, that nobody would answer the phone and you'd have to try again later, or you would answer the phone -- and I usually, if I was ringing, I would want to speak to a doctor rather than -- I mean, when the biomedical scientists ring results, they generally just give it to whoever answers

the phone. I mean, there's a protocol for, you know, asking them to repeat the results back, et cetera, but they would just give them to whoever answered the phone.

Usually when I was phoning results I was wanting to know a little bit more information, so I would normally ask to speak to the doctor, and sometimes there would -- the doctor would not be on the ward or they may be on the ward but weren't available to speak to either because they were doing a procedure or they were on a ward round, in which case I would either ask them to call me back or I would take a bleep number and try again later.

Q. So in terms of what sort of occasions when you needed to be involved, it required a doctor at the other end?

A. Well, usually, because I normally wanted to know a little bit more about the patient, and usually the doctor would have a better indication of the sort of things I was talking about. I have spoken to nurses who were particularly in the more specialised units where they were more intensive one to one and, therefore, would know a lot about the patient, but usually I would want to speak to a doctor.

Q. When you say doctor, are you just asking for any doctor on the ward at that time or the patient's

doctor or the Consultant in charge of the patient, what sort of request would you be making when the phone is answered?

A. I would usually be looking for the doctor who was looking after that patient, so it could be -- it wouldn't normally be the Consultant because they wouldn't usually be on the ward. It would be unusual unless I had to hit a ward round. So it would usually be one of the doctors who was directly involved in that patient's care.

Q. Let's just walk through the process. We've heard from your colleague, Dr Milan, this morning, something about the Liverpool end of the process, but your understanding is that -- and I'm just summarising your witness statement here for you to agree or disagree -- that blood would be taken on the ward, it would arrive at your lab first with the request on it.

A. Yes.

Q. That if it was a test that your lab did your lab would undertake that test. If it wasn't a test for your lab but it was a test for Liverpool, that you would prepare the sample for transport and ensure it was correctly pack and arrange for the transport to Liverpool --

A. Yes --

Q. -- have I got that right?

A. -- it would be -- I mean, depending on the type of requests, sometimes the samples needed to be frozen, sometimes they could just be stored in the refrigerator, so each -- I mean, we have quite a lot of documentation around what's required for each particular type of test. So -- I mean, obviously I'm not directly involved in that, but the staff in the laboratory would -- when they get the request in, they would take whichever sample -- if there was a sample specifically for a referral laboratory or if they just would take a part of one of the samples they had, which, as I say, they would either put to one side in the fridge or store it frozen until they were able to send it on the next transport, which would usually be the next working day. For Liverpool in particular we had transport every day -- well, Monday to Friday so that they would -- it would go on the next day's transport.

Q. And in terms of the particular test that we're focused upon, the insulin C-peptide and the ratio between the two, we understand that that wasn't a test that the Countess was doing in-house at that time.

A. No.

Q. Can you just help us to understand why that wasn't an in-house test and why you needed to outsource

that?
A. Well, in -- very few laboratories would do insulin. They're specialist tests, they're not asked for -- when you make a decision about whether to have a test in a lab or send it elsewhere it's usually a decision based on how quickly the results are required. Anything that we think needs to be required within four hours for a patient's immediate management we would do in-house. But more esoteric tests need to be done in specialised laboratories because it's not feasible for every laboratory to set up this -- the instrumentation, the expertise that's required to do these assays, and if you are only doing a few, then you would not have that expertise inevitably because people wouldn't have the familiarity with the test.
So I think, as far as my understanding is, Liverpool does the insulin and C-peptides for the whole area. I could be wrong, but that's my understanding. So they would have all the hospitals from the Cheshire/Merseyside region sending their samples there, which allows them to -- there's also an economy of scale as well but it allows them to develop the assay and have the expertise in performing those assays.
Q. And just help us with a little further understanding about the thought process you would expect

for somebody asking for that test. If a clinician has a child who is hypoglycaemic, so low blood glucose, and they said they wanted an insulin and C-peptide test, what would you expect the clinical reasoning for that request to be?
A. Well, they would be looking for a reason for the blood glucose to be low. I mean, it's not uncommon for neonates to have low blood glucose, especially if they are premature or small. But -- and a lot of the time they may not go through the full investigation because it may be a very transient thing which is easily managed.
If it's proving a little more difficult to manage, they might want to try and understand what the cause is. And insulin is the main hormone that reduces glucose levels so, you know, too much insulin can be a cause of a low glucose, so that would be the rationale behind asking for that particular test.
Q. And so under that clinical reasoning, the clinician doesn't know the explanation but is thinking to themselves, "This baby might be producing too much insulin causing him or herself to become hypoglycaemic, and the test, the insulin and C-peptide, may confirm that."
A. Yes.

Q. And, therefore, the clinician, if that was going to be the outcome, would be expecting to see both a high level of insulin and a high level of C-peptide; is that right?
A. Well, it depends what the cause was because they can also be the opposite. You can have a lack of the other hormones that increase glucose that can also be a cause of hypoglycaemia. So the three hormones that they do look at commonly are the glucose -- insulin, cortisol, and growth hormone, and they're the sort of three main hormones that keep glucose within relatively close limits in healthy individuals. So if you have an imbalance of any of those that would give an explanation.
Q. Absolutely, but one part of that triangle of drugs is the insulin --
A. Yes.
Q. -- and so the reason why you ask for the insulin level is because that might provide the explanation for why the child is --
A. Yes.
Q. -- hypoglycaemic?
A. Yes. You would be looking to see whether it was low or high in the context of the glucose, yes.
Q. And, of course, the additional piece of

information in the request is for the C-peptide because --
A. Yes.
Q. -- if that C-peptide is high, then the clinician can say to themselves, "This child is producing a lot of insulin, we need it think about how we manage that"?
A. Yes. So there is a relative relationship between the two, yes.
Q. Yes. So that's what's in the clinician's mind when they ask for the insulin and for the C-peptide?
A. I assume so, yes, they're looking for that cause.
Q. That's what you would expect?
A. Yes.
Q. So let's just look, please, at the circumstances relating to Child L with those factors in mind, and we can begin by having a look at INQ0001169 at page 216, please.
So here we're looking at a record from the Countess of Chester. This is a record I think you're familiar with, is that right, Dr Bowles?
A. Yes.
Q. And just draw our attention, please, to a few items. I think we can see towards the top left, about

a third the way down, the date 9 April 2016 at 15.45. Do you see that?

A. Yes.

Q. In fact it's a little lower than that?

A. I can't see the 15.45 -- oh, yes, I can, yes.

Q. Lower than where it's being highlighted --

A. Yes, I can see that now, yes.

Q. You can see that? Thank you very much indeed. And would you -- what would you understand that entry to correspond with?

A. That would have been probably the time that the request was made for the blood test, so that would have been made on the unit for -- for the actual request.

Q. So the chain of events in terms of the record starts with that, with somebody on the unit saying, "I would like the following tests undertaken"?

A. Yes.

Q. So we can take that down, please. You would then have expected the sample to reach your laboratory --

A. Yes.

Q. -- is that right? You just looked at the screen there, was there -- was there a record on there that might help you with that question?

A. Yes, it was received --

Q. Can we bring that back up again?

A. It was received in laboratory at 18.26.

Q. Thank you. Could we bring that up again. Thank you. That's my mistake. So where should we be --

A. That's -- at the top, there's -- next to the specimen number there's -- the next column along there's three --

Q. I see so we've got, "Ordered for COLL received"?

A. Yes, the received would be when the sample barcode was read by the specimen reception, so they would wand the barcode, and that was what's called "receiving specimen into the laboratory".

Q. Now, in fact there's a matter I overlooked to ask you about -- in fact two. We can see hypoglycaemia is marked in the very centre.

A. Yes.

Q. So would that be information provided from the ward as a result of a heel prick test that they'd done or would you actually see --

A. Yes. I mean, they would generally monitor the baby's blood sugars using the heel prick tests and glucose meters on the unit because they're supposed to

collect these specimens when the baby is hypoglycaemic, but we usually do a check of the blood sugar in the laboratory because that's considered more reliable than the -- the glucose meters. So they would -- you need -- in order to interpret the results, you do need the glucose to be low, so they would -- they would collect those results at a time when the baby was recorded as being hypoglycaemic.

Q. So that hypoglycaemia entry there against the words "relevant clinical details", is that what your laboratory has been told by the ward or is that as a result of your laboratory's check?

A. No, that's -- that's what they would have told that -- that was what they would have told the ward. From the ward, yes.

Q. But to be checked and to be calibrated accurately by your --

A. Yes, to be checked, yes.

Q. Yes. Obviously we can also see -- and this is the other matter I omitted to ask you about -- that on the 11th of the 4th, just below where it's highlighted, we've got "closed", and I think by you. I think that's -- that would be a reference to your name; is that right?

A. Yes, that was -- I think that was related to

the cortisol and growth hormone results.

Q. Yes. So those are the results that you can do in-house.

A. Yes.

Q. And so you can close those ones off within two days of receiving them --

A. Yeah, well, those -- that would have -- because this was a Saturday the 9th --

Q. Yes.

A. -- and the 11th was the Monday, so that -- I would have been duty biochemist on that day, so that would have been one of the results that I looked through on that particular day.

Q. So in-house dealt with within two days first --

A. Yes.

Q. -- day of the week. But, of course, we've got part of the sample going off to Liverpool for the testing for the C-peptide --

A. Yes.

Q. -- and insulin.

A. That would have been transported on the Monday with the Liverpool transport.

Q. Thank you. So we can --

LADY JUSTICE THIRLWALL: Sorry, just before you --

MR DE LA POER: My Lady, of course.
LADY JUSTICE THIRLWALL: -- I just want to check my note at the top when we've got the three timings, or rather unknown, unknown, and then what time was it received in your --
A. I think it is 18.26, is it not?
LADY JUSTICE THIRLWALL: Well, that was my question. I couldn't see whether it was 15, 16 or 18.
A. I think it must be 18 because the entry was only made at 15.49, so I think it was 18.26.
LADY JUSTICE THIRLWALL: So 18.26 on the basis that it must have been that -- there would have been that much time between it being taken and then received?
A. Yes, and then the timings that are below which are the sort of series, there's an 18.29, that would have been when the sample was put on the track to have the in-house samples done. So we have a robotic track and that reads the barcode as well and that was at 18.29.
MR DE LA POER: That in the bottom half --
A. Yes.
Q. -- that series of columns --
A. Yes, that is right.
Q. -- there we can see --
LADY JUSTICE THIRLWALL: So 18.26 followed by

18.29. Thank you very much.
MR DE LA POER: So in terms of the in-house results, what -- before you received the final part of the puzzle from Liverpool, what conclusions if any could be reached from those in-house tests?
A. I think from what I can remember, all the results were relatively normal. The glucose was low, it was 2.8, not quite within the definition of hypoglycaemia, but certainly low.
The growth hormone was relatively high, which is what you would expect in a hypoglycaemic patient because glucose -- growth hormone and cortisol tend to raise cortisol levels -- glucose levels, so you would expect the normal reaction would be for them to be increased.
The cortisol doesn't look raised but the reference range that's given on the -- on the -- the report is based on a 9 am cortisol, which is -- cortisol has what we call a diurnal rhythm, so it tends to be high -- highest in the morning and lowest at midnight, so a result that's -- looks like it's within the reference range but is -- later in the day could be considered to be higher than you might expect if the patient wasn't stressed by having hypoglycaemia.
Q. So we can take that down.
So does it come to this that, in terms of the

in-house tests that you'd done, there was no obvious explanation for the very near hypoglycaemia?
A. No, they were what would be expected in that situation. I mean, obviously if there was a deficiency of hormonal -- of growth hormone or cortisol you might -- that might be picked up in that situation because they could perhaps be the cause of a hypoglycaemia, but those look like perfectly normal responses in that situation.
Q. And so -- I'm not suggesting this happened but anybody looking at just those results and knowing that another result was due would be expecting a high level of insulin to come back, would that be the hypothesis that you would have waiting to be confirmed, because that would then explain why the blood sugar was very low?
A. Yes. I mean, there may be other non-hormonal explanations but that's probably a reasonable supposition, yes.
Q. And so we come to the 14 April, and you were the duty biochemist, as you've told us, that day. And we understand from the evidence from the Liverpool end that a telephone call was made. And whether you answered it or whether someone answered it and put it through to you, you ended up in conversation with

somebody --
A. Yes.
Q. -- from Liverpool; is that right?
A. Well, I -- yes. I mean, I have to emphasise that I don't actually remember this -- any of this had actually happened. It's -- I'm purely reliant on the records that I've been presented with and also the usual practices -- procedures in the lab and practices at the time. It was many years afterwards before I was -- this was highlighted to me. So I have to say that I'm basing this on supposition as to what I would have done in that situation, apart from the ones where I actually have documentary evidence of my actions.
Q. Well, we'll come to all of that in a moment. Let's just build the picture. INQ0001176.
Now, this is the Liverpool end, this is an entry on their system, and we can see that that person has recorded on the system that the advice is:
"Difficult to interpret without concurrent glucose but may be inappropriate if patient was hypoglycaemic at the time of collection."
And your full name is indicated about three lines above.
A. Yes.
Q. And we've got the time there in terms of their

system record of 9.38 and 23 seconds.
A. Yes. I mean, I would not have actually seen that comment.
Q. No, I'm not suggesting for a moment --
A. But I assume that's the thrust of the conversation that I had.
Q. Well, exactly so. So this is what that person has recorded their advice as being in that situation and --
A. Yes.
Q. -- if we just take yourself out of the situation for a moment, just think about these results, that's good advice, is it?
A. Yes. I mean, on the basis of results, yes, that seems a reasonable decision.
Q. So you would have -- you would have expected somebody with those results in Liverpool to be saying something like that?
A. Yes.
Q. But, of course, the missing piece of the puzzle for them, a piece of information that you had, was the glucose level.
A. Yes, that's right.
Q. So let's now have a look at the other side, the note at Chester, INQ0001169 at page 217, please.

Now, regrettably, there are aspects of this that are harder to make out, but I think that the relevant details are just appearing on the bottom of our screen there.
We can see there the insulin result of 1,099. Is that the number that we should be looking at?
A. Yes.
Q. And we can see under that interpretation of insulin level depends on glucose, so that appears to precisely match --
A. Yes, that --
Q. -- what the record of advice from Liverpool.
A. That goes on automatically I think on every insulin.
Q. That's a warning to everybody, don't assume, double-check?
A. Yes.
Q. I understand. So it looks like the advice at Liverpool was in line with your automated warning.
And then we've got the insulin C-pep at 264. Is that the right number that we should be looking at?
A. I think so, yes.
Q. Now, let's just consider these circumstances.
Firstly, will you have manually input those entries into this -- into a pro forma on a screen that produces

this printout?
A. Yes. I mean, that's what made me realise I had obviously -- probably had had a phone call, even though I didn't remember it, because I wouldn't normally enter the results of tests myself. They would normally have been done by one of the biomedical scientists and then we would check them as a second check. So the fact that I entered them was a clue to me that I probably had a phone call or else alternatively that the -- sometimes the post does come addressed to me and I would open it, and then I might see a result and think, "Oh, I should do something with this."
But I think -- obviously now I know it was a phone call that prompted me to act on them. Because our normal process is the results go to a box upstairs and the biomedical scientists work their way through them, and because there are so many pieces of paper it actually can take quite a long time for them to work their way through, so with a result like this obviously I would want to make sure there's no delay I've made the decision to enter it myself.
Q. And in fact we can see just directly below, about an inch on my screen, 9.38 is the entry time. So if you just go straight down the screen about four lines, we should see a 9.38 next to the date with your

name.
I wonder if we can just highlight that so that -- so four lines down. There we are. And, of course, we know that the Liverpool record is timed at exactly the same time, which, again putting the pieces together, demonstrates, doesn't it, that this was a telephone call from Liverpool --
A. Yes.
Q. -- to you and you are at the same time, one in Liverpool, you in Chester, making entries on your system about that call?
A. Well, I don't know whether I would have made the entries directly at that time. I usually write them down and then read them back, but certainly I put them in very shortly after the phone call or around the time of the phone call.
Q. So we're going to come to, further along that row in a moment, the verified. But I just -- before we get to verified, let's just talk about the context of this.
What were the circumstances in which you would expect Liverpool to be telephoning through a result for what was otherwise a non-urgent testing request?
A. They would ring through results that they felt needed someone to look at and possibly act upon, bearing

in mind that they might not have all the information that they required.

Q. Is it -- bearing in mind that they could otherwise just put it in the post and it could turn up a couple of days later, be sorted through and so on, does it in fact indicate that this is urgent --

A. It indicates --

Q. -- if they're telephoning --

A. -- that it's either urgent or unexpected or unusual, yes.

Q. So that's the fact of the telephone call. Let's look at the results themselves.

We've heard from Dr Milan that in the event that this was insulin secreted by the body, one would expect the C-peptide level to be five or ten times higher than the insulin level.

A. Yes, that's what the ratio indicates, yes.

Q. And so that number 264 should have been, if this was naturally occurring insulin, between 5 and 10,000.

A. Yes, yes.

Q. And it is -- and I won't attempt to say how many factors, but many factors less than that, isn't it?

A. Yes.

Q. And from the point of view of you as

a scientist understanding how the human body works and what the ratios should be, is your interpretation of that result it's at least highly likely that that child has received insulin by way of medication as in externally?

A. Yes. I mean, obviously I'm sort of looking back and interpreting them trying not to think about what I know now compared to what I knew then but, yes, this certainly would have been a puzzling result in a patient on the neonatal unit.

Q. We're going to look -- because you use the "puzzling" in your statement we're going to have a look at that in a moment. But from your point of view, understanding how the ratio of insulin and C-peptide should work, that is the obvious conclusion, isn't it?

A. Yes, it seemed to be -- seems to be a conclusion that it looks like there is external administration of insulin.

Q. And, of course, you had access to the glucose level.

A. Yes.

Q. And you had that prompt that you ought to check it --

A. (Nods).

Q. -- and checking the glucose level would

indicate that the child was very nearly within the hypoglycaemic range; is that right?

A. Yes.

Q. And working on the hypothesis that this is externally administered insulin, doesn't that only leave three possibilities? Let me tell you what they are and you can see if you agree or disagree. Either that child had been legitimately given insulin but they had been given so much in a hyperglycaemic state that it had almost taken them to state of hypoglycaemia. That's possibility 1.

Possibility 2 -- that they have accidentally been given insulin, in other words it wasn't indicated for them at all but by reason of some kind of medication confusion they've received it.

Or option number 3, somebody has deliberately given insulin when it was not clinically indicated, which would obviously be the most serious possible implication.

So those are the three possibilities for your conclusion. Do you agree or disagree with that?

A. Yes. I mean, I have been -- highlighted another case that did have similar results and was diagnosed as congenital hyperinsulinism, but I was a bit dubious about the likelihood of that diagnosis. But

the -- in my mind, at that time, yes, the three --

Q. Yes --

A. -- were probably the most likely.

Q. -- exactly so. I mean, we're not talking about extremities, whether they do or do not legitimately exist. As a doctor as a pathologist interpreting these are going to start with the most obvious explanations, aren't you --

A. Yes.

Q. -- and exclude those? But those three are the obvious explanation for the -- this result?

A. Yes, yes, I would agree.

Q. And it being one of those three, do you agree at best it's likely that there has been a medication error?

A. Yes. I mean, I -- I can't say whether I thought through that clearly at that time about the possible scenarios. I possibly just thought this is something I need to convey and find out a bit more about. So I may not have -- in the -- you know, at the time I may not have actually gone through that process, I might have just thought, "I need to speak to someone about these results."

Q. That poses this question: why wouldn't you have thought in that structured way about these results?

A. I don't know. I mean, sometimes you just get results that are puzzling, and I guess the obvious thing to do is to try and find out a bit more information about them. Rather than to sit and sort of wonder actually to try and find some facts out about it.

Q. I suppose the reason you would do your own analysis is that you would then be able to decide what level of priority to give your efforts that followed. Do you follow the reasoning of that, that if you had sat there and thought, "At best someone's has made a medication error, I really need it make sure that I speak to somebody about this and have a proper discussion about them", that would be a valuable use of your time analysing what these results might mean; is that fair?

A. That's fair but, as I say, I can't remember what my process of thoughts -- thought processes were at that time. All I know is that I obviously felt the need to ensure the results were communicated rapidly.

Q. Now, do you in the lab have access to the patient medical records, the electronic ones?

A. At that time, we had very limited access because most of the clinical notes were paper-based. The only notes that were available on the computer system were the nurse care -- nurse care notes --

patient care notes.

The doctors' notes were all paper and then they would be scanned on to what we call Evolve, usually quite some time later, so we wouldn't have access to all the information about the patient at that time.

Q. Would the nursing notes, if you looked at them, that you did have access, to tell you whether or not a patient had been prescribed insulin or had received insulin?

A. They were very variable as to what detail was in them. A lot of it was things like details about their feeds, et cetera, and so it would vary from one baby to another or one patient to another what detail was in those particular notes, so it wouldn't necessarily say what medication they were given.

Q. But it might?

A. It might, but it wouldn't always.

Q. So let's look at that verifying, because you mention that second timing in your witness statement, so if we look back towards the bottom where we were looking at 9.38 we can see the VER and then the time 9.40.

A. Yes.

Q. So just tell us, what is the significance of the verification step of the procedure?

A. Well, if you're actually verifying after you

have entered a result and you just -- you're not -- there's nothing untoward about result, it's an instantaneous process, so basically you just press A and return, so it would be instantaneous. So the fact there was this two-minute gap was what made me think that that would be my usual practice would -- that I tried to telephone someone at that stage.

Q. You have said two minutes, in fact they verified that's being highlighted here is against a time I think of 9.36 to the left.

A. Entered 9.36. Oh, well, I --

Q. And then the line below --

A. Oh, it's there. So there's -- yes, so there's -- right okay.

Well, yes, the 9.36 that's possibly -- that's a bit -- I don't quite understand that. Is it 9.36? I assume they were all 9.38 actually because --

Q. Well, it may be that that's my eyesight and bad reproduction.

LADY JUSTICE THIRLWALL: It's 9.36.

A. I can't understand why there would be two different times actually. I assumed it was 9.38.

Q. At all events, there's at least a two-minute gap --

A. Yes.

Q. -- for at least most of these results --

A. Yes.

Q. -- as against the verification, and so just looking back at your practice at the time, what might be an explanation for the fact that you haven't just pressed "Enter" to verify the results?

A. That I tried to contact someone with the results. And I would -- I would hold back the verification because if you do manage to speak to someone then you can put a comment -- electronic comment to that effect on the -- on the report before it's verified.

Q. Does it follow from that answer that if have -- once you verified it you can't then add a comment?

A. It's not very straightforward, you have to go back to a process to edit and everything, so it's much more straightforward to wait until you've actually spoken to someone and then put -- you could just put P, phoned, and there's a little box came up to say what time you'd phoned it, et cetera. So you would tend to hold back until you'd actually phoned the result through.

So the fact that there was no comment there but there was that gap makes me think I had tried to phone

but hadn't actually been successful in speaking to anyone at that stage.

Q. A combination of the delay to verify but the lack of a comment put together in your mind means, "I did call, but nobody answered"?

A. Well, it could be I called and somebody answered but I wasn't able to speak to the person I needed to speak to. As I said before, what can sometimes happen -- I mean, it may be there was no answer but it could be that someone answered, I asked to speak to the doctor looking after this baby, and the -- whoever it was had told me that they were either not on the unit or they might have been doing a procedure, they might have been on a ward round and, therefore, they weren't available to come to the phone.

So I would have then made a note of that with the view to try and speak to them later. But I -- especially if I did think they were on the ward round, then verifying the result would be sensible because they may then see that result while they were on the ward round.

Q. Having verified it, is it then posted to the electronic records?

A. Yes, it goes directly to the clinical notes then so they can see it.

Q. Now, I would like to going back to the word that you used earlier about it being a puzzle or you were experiencing some puzzlement with this.

Just explain to us, please, in your own words, why you think that this result is "puzzling" as opposed to perhaps "worrying" or "of concern" or "ringing alarm bells", why do you choose the word "puzzling"?

A. I suppose I was probably influenced, perhaps falsely, as it turns out, by the fact that this was a baby that had been on the neonatal unit since birth and, therefore, I guess the idea that anyone was trying to deliberately harm babies would have been, you know, a very, I suppose, unthinkable or at least so horrifying as to not really want to go there. I think it was -- I think probably was -- that would be my process of thought that surely not.

Q. Can I just ask you about --

A. And I didn't -- as I say, I had no knowledge of any problems on the neonatal unit at that stage, so I -- I wasn't working within the context of, you know, there having been unexpected problems on there.

Q. You've talked us through your thought process about how you couldn't really conceive of how somebody could be doing harm deliberately. But I think we'd -- correct me if I'm wrong, but we'd already established

that this is one of three possibilities and you don't have to jump straight to that. Before you get there, this could have been a serious medication error.

Again, just your word "puzzled", if you're recognising the possibility it might be a serious medication error as the best case, surely you would be concerned or worried?

A. Well, I think both. I mean, obviously, yes, I would be -- "puzzled" I suppose is not sure of what the possible explanation is and concerned enough to want to phone and make sure that it's seen by the staff. Yes, obviously I would be concerned.

But I -- puzzled I suppose was because I was faced with a set of results that didn't -- there didn't seem to be a reasonable explanation for and, as you say, the explanations that could be would be disturbing.

Q. Medication errors are well-recognised problem, isn't it?

A. Yes.

Q. It does happen. And if it had happened, it would be absolutely imperative, do you agree, that everybody on the ward knew about it so that they could make sure no harm was done, make sure the patient is okay, make sure that the systems are robust, make sure it doesn't happen again. Isn't that the reaction that

you would expect from someone flagging a medication error?

A. Yes.

Q. And so I just -- it's my last question really about the -- your use of the word "puzzle" and "puzzlement". It's just as you've used that word both in your witness statement and in your oral evidence, looking back on it, do you think you will have seen this as more of something that is intriguing and confusing as opposed to a serious cause for concern? Do you think your choice of language just reflects that that is likely to have been your mental state back in 2016?

A. Well, at the time obviously -- as I say, I don't remember that date or any of the events around this from actual memory. I think I would have just looked at these results as being something that required explanation and I would look for further -- further information in order to try and explain them.

I can't remember what my thought processes were at the time.

Q. Had you heard of the case of Beverley Allitt?

A. I was -- I was vaguely -- yeah, I mean, I have heard of heard that name, yes.

Q. And that -- were you aware that she used insulin?

A. Possibly. I'm not sure whether I was aware at 2016. But, I mean, I am now, yes.

Q. I mean, we also know of a case relatively locally to the Countess in 2011 when a nurse used insulin to kill two patients. Were you aware of that case in Stepping Hill?

A. Probably, yes.

Q. And so although it was a difficult thing to conceive of it wasn't impossible to imagine because it had happened in reality, do you agree with that?

A. Yes, but I suppose you always tend to think those as being one-offs and you don't expect them to be in your own institution, I suppose. It's something you -- I mean, if I -- I had been aware that there had been problems with babies on the unit, then obviously this would have been a huge red flag, but at that stage I had absolutely no knowledge of any problems on the unit.

So it was like having a piece of a jigsaw but I didn't actually know there was a jigsaw. So, you know, it was standing alone as an isolated result, and obviously looking at it now it's very obvious what it was saying, but at that time I -- I guess I just didn't -- it didn't fire that suspicion.

Q. Do you think it should have? Not with the

benefit of hindsight, but just knowing about Stepping Hill, seeing those results, knowing that the child was almost hypoglycaemic, do you think it should have at the time caused you to recognise that there was potentially a very serious problem here?

A. Yes. I mean, I don't know that I didn't recognise there was a problem, but I probably didn't have that deliberate harm at the top of my list. I think -- I suppose I was hoping that there would be some sort of explanation that was less sinister than that.

Q. Had you ever before in your career come across that combination of hormonal profile, so where there was no explanation from the in-house tests for the hypoglycaemia or virtual hypoglycaemia and you had a C-peptide and insulin level like that?

A. Probably not. But I don't look at a lot of these results. I mean, we did a search of 10 years of C-peptide and insulins recently and there were over 300, but only 23 of them were from neonates, so that's only a few a year, and obviously I would have seen a -- a proportion of those but not meant -- not all of them, so it wasn't a set of results that I was used to looking at frequently.

Q. And as you've told us, you had no -- no memory

of the telephone call that you received and you don't have a positive memory of having spoken to anybody on the ward about this.

A. No.

Q. I would just like to examine that, acknowledging -- and we'll come back to your notes and the fact that they'd been destroyed -- but if you had had the sort of thought process that we've been discussing, in other words at best this is a medication error which really urgently needs to be addressed, in the context of results that you had never previously seen before, do you think you would have remembered a conversation with a doctor about those results?

A. I don't know.

Q. Just on an ordinary human level, and you tell us about your experience, but human beings tend to remember exceptional, alarming, concerning events ahead of ordinary run-of-the-mill events, and I'm just inviting you to consider whether -- if you had thought in those terms whether you would have had a memory of having phoned it through, spoken to somebody, told them, "Look, there's a problem here, you really need to look closely at this"?

A. I mean, I've racked my brains, you know, to try and think about what I can remember of this case,

and the trouble is the more you think about it the more you can come up with snippets of conversation that you think may be -- may be related, but I couldn't reliably say that anything I remember is either real or is related to this case in particular.

I mean, we do get unusual results that we discuss with doctors quite regularly. I mean, as duty biochemists you look at 2 or 300 sets of results a day, so it's not unusual to see results that are difficult to explain or -- or, you know, unusual you might want to talk to someone about.

So in that context, you know, I don't remember. And, you know, I genuinely can't say that I have memories of that -- of any conversation.

Q. If we just think about how that conversation would have worked. You would have said, "These are the results." Presumably you would have said, "This indicates the child has been injected with insulin or given insulin in some way and it's caused them to become hypoglycaemic." Is that the sort of thing that you would be saying?

A. Well, yes, along those lines that this was a result that -- yes, that tended to indicate insulin administration and that was -- you know, we'd try to understand how that could have happened.

Q. Yes, and what they had at the ward level that you may have had access to but you may not have is absolute confirmation about whether that child was prescribed insulin, and so presumably you would have said, "I think you need to go and check whether that child was prescribed insulin because if they were, they might have been given too much, and if they weren't, we've got a really big problem." Is that the sort of thing that you'd be saying to the doctor?

A. I think what I probably would have said is that this, "These results suggest it the child has been given insulin and I don't really understand how that could have happened in these circumstances and obviously that needs looking into."

I mean, whether that was something the doctor would know offhand or whether they would have to go and check, I don't know. I mean, we do tend to find that if results are registered as being unexpected and they're often set aside as unusual, a quirk, laboratory error, especially in a situation where -- which was the situation here that the patient was no longer hypoglycaemic, so it's not unusual for us to ring results through and then for people to say or not even to say, to just go away and actually just note that there doesn't seem to be anything to explain it but

we'll just put it to one side.

Q. There was no question of any error with the test here, though, was there?

A. No, but that doesn't stop the clinician sometimes believing that that might be an explanation.

Q. But isn't that where your role comes in to say "I've no reason to think this is wrong", with all your expertise in the lab, it's come from Liverpool, they've got excellent quality assurance process, "I'm satisfied, as far as I can be, that this is right, you can't dismiss this, you need to look into it", isn't that part of your role speaking to the doctor?

A. Yes, but the decision about whether they actually say that it's -- if they went away and then found it had a result that was -- didn't fit in with what they expected and the baby was quite well, they might have just noted that it was unusual but not -- not actually taken any further action, which I think was the case with another child in the -- in the --

Q. There is a note for Child F. By contrast there isn't -- and I think you've satisfied yourself of this, there is no corresponding note for Child L.

Again, putting these things together, is that what -- would you expect that if you'd spoken to a doctor and communicated to them that there was

a concern about these results, that the doctor then wouldn't write it down? I appreciate ultimately it will be down to the doctor, but is that what you would expect to happen?

A. No, it's not what I expect. But, again, it would depend on where the doctor was when I spoke to them. You know, it's all speculation really about, you know, what -- I know they did have the results and they did comment on them in the notes. They did say the C-peptide insulin ratio was low, so they did comment on it. But, you know, I can't say what happened beyond that.

Q. That comment you're referring to is the following day on the ward round.

A. Yes.

Q. So not in the context of any conversation with you.

A. No.

Q. Did you have access to the Datix system?

A. Yes.

Q. Do you think that these results merited a Datix report from you?

A. Well, they may have merited a Datix. I suppose the question would be who would have the information to complete that Datix.

Q. But did you have enough information here to complete a Datix so that a further investigation could take place?

A. I suppose in retrospect I may well have done. But, yes, I didn't -- I didn't do that. As I say, I probably felt I didn't have the complete picture at that stage.

Q. You say with retrospect, in fact with the information you had at the time, do you think you did have information to do a Datix or that you had insufficient?

A. I think it would have been necessary to have a bit more information about the patient before completing it. So it could have been after a conversation, I suppose, or it may have been reasonable depending on what the conclusion about the results was for the doctors on the unit to have done it.

Q. Does the fact that you didn't complete a Datix tend to suggest you didn't speak to a doctor or do you regard that as a neutral factor?

A. No, I don't think I would necessarily have completed a Datix on the basis -- on regardless of whether or not I had spoken to the doctor.

Q. I mean, did you see yourself as under an obligation to complete a Datix when there were

potential clinical issues that needed further investigation?

A. Yes, I suppose I did. But, again, at the laboratory side of things we do have a limited amount of information available and so where there are patients involved we do often rely on the clinicians actually doing a lot of the investigation because they have more information. But, yes, in retrospect it may have been a reasonable thing to do.

Q. Your notes which have been destroyed and, therefore, you can't refer to them to say definitively one way or the other whether you had such a telephone call, just help us to understand why your notes would have been destroyed?

A. Well, my practice is to use a diary each year and I have -- at the end of each day I write down my tasks for the following day and then if anything comes up that I need to do, I add to it. So that's the sort of place I would have written down any phone calls I needed to make.

I don't keep those diaries for more than a couple of years because generally we have relied on the audit trails on the laboratory computers. I think most of my colleagues have had paper-based telephone logs and they don't tend to keep them for long periods either, so it's

not particularly unusual. Obviously in retrospect it would have been helpful to have had that diary.

Q. So if you had a conversation with a doctor in which you conveyed important information about the patient, would you write that in your diary as opposed to on any record accessible to anybody else?

A. Well, usually I would put something in the -- on the -- may have put something on the comment, but obviously the difficulty is you have to be a little bit careful about what you put in comments because if they are speculative, they are obviously visible to a lot of people. So I would probably put a -- usually put some sort of comment on -- on the result if there was a conversation.

But the records of the conversations generally I probably would have anticipated if they were relevant to the case, the doctor themselves would perhaps note them down. I didn't have anywhere other than my own log to write them down. I didn't have access to the patient notes to write anything.

Q. But you could write a comment on -- on the system.

A. I could write a comment -- well, if I hadn't edited it I could have written a comment on the result but you would be a little reluctant to put something

speculative on there because, you know, for example, if you said this could be a case of, you know, insulin administration, it -- it wouldn't necessarily be something you -- if you then are proved wrong that you would want on that record forever.

So like the comment that Dr Davies put, it's -- they tend to be rather than anodyne comments that sort of highlight something but they don't give the full picture.

Q. It would be entirely my question -- I'm talking about in the event that you had a conversation with the clinician, that wouldn't be speculative at all, that would -- you recording the key points that you had conveyed.

A. Yes, but there wasn't anywhere formal for me to put that in terms of -- other than walking out to the ward and writing something in the notes.

Q. Do you think that was a failing in the system that was being operated, that you don't seem to have had a place on the patient record that everybody could see about potentially important advice that you have given to a doctor on the ward?

A. Yes. But that -- that was the system. There was no access for us to actually write. As I say, we would have had to walk to the unit and write it in the

clinical notes at that point. There was nowhere else for us to document it.

Q. And who had overall responsibility for that system?

A. The --

Q. The system that meant that you couldn't write on the patient records what advice you'd given to --

A. Well, it was the --

Q. -- a doctor?

A. Well, it was the hospital computer system, so that was the way it was configured. I don't know -- I mean, obviously that's just the way the system was. The current system we have now would allow us to do that but that system didn't, so we --

Q. Do you --

A. -- didn't have access -- we didn't have a place in the system to do that.

Q. Given your leadership role, do you think that was something that you should have identified to the hospital to say, "When I impart important information about a patient to a doctor on the ward there needs to be somewhere where I can record that that can be checked in the future"?

A. Yeah. I mean, there was a lot of functionality issues about Meditech that we didn't

necessarily find useful. For example, there was supposed to be, when it was introduced, an endorsement function where it could be seen that clinicians had actually reviewed the result and it could be shown that they had actually reviewed it. That never -- that functionality was never realised.

So I think there were a lot of limitations within that system. I suppose it was relatively old. 2002 it was introduced. But I have to say, I never really thought about having that functionality and I don't know whether we would have been able to introduce it or not.

Q. Finally on the destruction of your records, just to understand, we know that in June of 2017, so just over a year after any record that you would have written in your diary, that one of the doctors on the ward drew attention to a potential anomalous insulin result that they could recall, that was in June of 2017, very shortly after the police were contacted for the first time.

What was your awareness of whether there was any investigation going on by the police into events on the neonatal unit? Did you know in 2017?

A. No. I think the first thing I knew about it was in 2018 when -- I mean, obviously I knew that -- I knew -- I think it was during 2018 I realised there

were problems on the unit. My understanding is that the first approach to the laboratory for insulin results was in October 2018. I think someone spoke -- at that stage spoke to my colleague, Dr Lewis.

Q. And was it by that date that you had -- or before that date that you had destroyed your diary for 2016?

A. No, I probably hadn't because I didn't appreciate my connection with this case until later, because it was only when I got all the printouts from the laboratory that I realised that I'd had any involvement with that particular case. So it was probably later than that. I would usually keep them a year or two and then dispose of them in the confidential waste.

Q. Do you think that once you realised that the police were investigating matters that touched upon your laboratory's operation that you should have kept your records then?

A. Well, as I say, it was towards the end of 2018, so I don't -- I don't know that I would have -- it would have occurred to me at that stage that that was something that was required.

Q. Now, you deal in your statement, Dr Bowles, with a number of changes that have occurred since, and

I'm just going to headline them for you. You describe those changes as "fundamental". Is that a fair description of the extent of them?

A. I thought I'd said that the -- fundamentally things hadn't changed but we'd made some --

Q. Forgive me -- well, it is important that you correct me if I get it wrong.

A. Well, what I think I said was the fundamental processes of how the laboratory works in terms of the analytical validation, et cetera, hadn't changed but there were differences to how we -- we recorded the duty biochemist role and telephone, et cetera.

Q. Then that is entirely my misremembering.

There is now an electronic transfer between labs.

A. No, there isn't?

Q. There isn't?

A. Well, we aspire to it, and we've aspired to it for probably well over a decade, but we haven't been able to implement it.

There is a system called Empex which we've been trying to instigate for many, many years. We never managed it. We are Meditech system. We'd hoped when our newer one, Cerner, came in it would work, and now we've been told we had to wait until the Cerner upgrade, which happened last month, so it's a piece of work that

we have been waiting for for many, many years but it hasn't -- it hasn't been realised yet.

Q. What about the number of duty biochemists, are there the same number --

A. Yeah, we have --

Q. -- or are there more?

A. We have more staff now. We have -- there's myself and the Consultant scientist who replaced Dr Lewis, and then there are -- there's another Consultant chemical pathologist who's 50% Chester and 50% Wirral, Arrowe Park Hospital, and there's also a scientist -- a band 8A scientist who splits between the two sites as well. And then we also at the moment have a specialist Registrar, quite a senior specialist Registrar who is attached to the department. So there's now five of us that we are now able to share the duty biochemist rota.

Q. In terms of the particular issue of insulin and C-peptide, what is the level of understanding within the lab about the potential significance of such a result?

A. Well, I think we are all very attuned to the possibilities. As I say, we -- we've tried to instigate a regular review of the insulin C-peptide results. I mean, very few of them are neonates. As I say, we

only get -- probably get an average of two or three a year, neonates but we obviously are scrutinising them more carefully.

Q. How about the approach to the telephone log, is that the same or different?

A. No, we have a shared electronic telephone log now, which was introduced, and this means all the people who are duty biochemists use it to record telephone conversations, either the ones they've received or ones they have telephoned out, so it's there as a permanent document. We also have on that document an instruction to follow up any phone calls with an email confirmation of the conversation, particularly if it's -- if it's resolved. And we also have another note to say that if we've been phoned by a referral laboratory we must phone that result through.

Q. And what about the glucose result and Liverpool, which historically they were not provided with and needed to contact --

A. No, we do --

Q. -- you about?

A. We do -- it's not -- it's still not the perfect system, we do try to make sure those results are -- are sent. I think we haven't quite got it right yet sometimes. It basically involves us writing the

result on the form that goes off to the Liverpool.

I had hoped that maybe one thing we could do is actually send them the glucose sample and they could analyse it themselves. But then, of course, we need to analyse it probably too to make sure it's worth sending the samples, because if the child is not hypoglycaemia, then it's probably not going to be helpful. So there are still some quirks -- slight flaws in the system but we are working to try and improve it.

Q. And finally this, are there any other changes that, in your view, need to be made that haven't yet been made or aren't in train to be made?

A. Well, as I say, the electronic transmission of requests and results would obviously be very helpful. I mean, I think one of the things that came out of this for me is that the paediatricians perhaps didn't share their concerns. I mean, I know it's a -- it was a sensitive issue and it's difficult, but if we had known that there were problems on the unit, then these results would have been so much more significant to us and we could have been very helpful. So there is a sort of, you know, is it reasonable for them to think about, if there are concerns, possibility of blood results being important? We do tend to be sidelined a little in the laboratory medicine side.

I mean, we -- we are sort of thinking about the sort of results that we could scrutinise and see whether there's any likelihood of safeguarding issues. It's quite difficult, though, because without the sort of clinicians' prompting we don't have often samples that are very clear-cut. I mean, obviously insulin and C-peptide have been highlighted as one. We've -- we have had urine samples, toxicology screens from a child recently where there was cocaine in it. So that was obviously a flag. But the GP was aware of that, that's why they'd sent the sample.

So, you know, us just looking at the samples in isolation is -- there are some that are obvious but a lot of them would not be obvious because the results would be not really specific to anything in particular. But certainly better communication in terms of the sort of things they are concerned about would be helpful.

MR DE LA POER: Dr Bowles, those are all my questions.

Questions by LADY JUSTICE THIRLWALL

LADY JUSTICE THIRLWALL: Thank you, Mr De La Poer.

Dr Bowles, just can I pick up on something you were just describing, which is that some results are not obvious and some aren't clear-cut, but I think you accept that the insulin C-peptide result was very

clear-cut.

A. In looking at it now it was certainly very supportive of, you know, the scenario that -- that was of concern.

LADY JUSTICE THIRLWALL: Yes. I mean, irrespective of a scenario, it was still a very clear-cut result and what it meant, I'm not going to ask you about again, you have been through that.

Can I then turn to something else you mentioned, which was about the sort of records and the availability of the records, and you said there was no way you can make a record on the patient notes, and you said, "I could have walked over to the ward."

I appreciate that's not something you did on this occasion -- I'm assuming it's not something you did on this occasion?

A. No.

LADY JUSTICE THIRLWALL: Has there ever been a situation when you would have done that? I'm not suggesting there should have been, I would just like to know --

A. I have occasionally actually gone to the wards with a problem. I mean, with -- you know, where -- particularly if the wards that were close to the laboratory, or I might have nipped on to the ward and

just sort of had a word with them. In that case I might have scribbled in the notes to say, you know, this is what I thought.

But, generally, we don't tend to write in the notes. But, as I say, with the new system we could raise a clinical note and actually write something now, but there wasn't a place for us to do that at that time.

LADY JUSTICE THIRLWALL: And just what you just said, "But we don't tend to write in the notes", so I would just like to understand what difference it makes that you can now write in the notes. Do you actually write in the notes?

A. I haven't had -- I mean, I do write in the notes for my own patients that I see.

LADY JUSTICE THIRLWALL: Sure. Yes.

A. I haven't really had cause to do so that I can think of for any other patient as yet, but that functionality is -- does exist.

LADY JUSTICE THIRLWALL: Thank you. Anything else.

MR DE LA POER: No, thank you, my Lady.

LADY JUSTICE THIRLWALL: Dr Bowles, thank you very much for coming this afternoon. I know that was a change from the arrangements that had been made --

A. Yes.

LADY JUSTICE THIRLWALL: -- but we're grateful to

you for coming and you're free to go now.

A. Thank you.

MR DE LA POER: My Lady, the balance of the day is going to be occupied by Ms Brown. If you will excuse me.

LADY JUSTICE THIRLWALL: Thank you, Mr De La Poer.

Now, I understand there's going to be -- you're going to be reading out summaries of evidence, Ms Brown --

MS BROWN: Yes.

LADY JUSTICE THIRLWALL: -- and I'll leave you to introduce that. My only question is a completely practical one. Firstly, how long do you think it will take in total and when do you think we should take a break?

MS BROWN: Well, I think it will take about two hours, possibly slightly less. So it's really whether a break before or whether a break part way through, I'm in your hands.

LADY JUSTICE THIRLWALL: All right. Well, shall we say we will go for 45 minutes, have a break at 3 o'clock. Ms Brown.

Summary of Doctors' Evidence

MS BROWN: My Lady, the Inquiry received statements from 52 doctors who are identified by the Inquiry as

being involved in the clinical care of babies on the indictment at or around the time of collapse and/or death, or who were connected with the events that took place on the neonatal ward between June 2015 and June 2016. This included doctors from the most senior to the most junior, including Consultants, GP trainees, resident doctors carrying out specialist paediatric training, and locums.

Statements were obtained from doctors with established careers at the hospital and from those who spent six months training at the Countess of Chester or worked for brief periods as a locum.

In addition to doctors who worked on or in connection with the neonatal unit during the relevant period, a small number of doctors who worked at neighbouring hospitals but who were deemed likely to have had relevant interactions with the neonatal unit or staff working there were contacted by the Inquiry to provide statements.

Doctors were asked about any involvement they had in the care of babies named on the indictment. They were also asked about their awareness of suspicions and the raising of concerns about Letby, about the reviews of unexpected neonatal deaths and adverse events, including formal and informal debriefs, the safeguarding

of babies in hospital and the culture of the hospital.

My Lady, I should emphasise that anyone else who worked at the Countess of Chester between 2015 and 2017 who has direct knowledge and experience of matters under investigation by the Inquiry and considers they have relevant evidence to provide is encouraged to contact the Inquiry via the Thirlwall Inquiry website.

Having received written statements, the Inquiry compiled a provisional list of those witnesses who could best assist the Inquiry with oral evidence. This provisional list was circulated to all Core Participants seeking their submissions on any additional witnesses that should be called to give oral evidence or on witnesses to be removed from the provisional list. Following that process, a final proposed timetable of witnesses for the oral hearings was circulated to all Core Participants.

My Lady, for the purpose of these oral hearings, I will now read out a summary of evidence from some of the doctors who have not been called to give oral evidence.

Dr Katherine Lyddon started her career as a foundation doctor at the Countess of Chester Hospital. She worked in the paediatric and neonatal department from January 2015 to September 2015. Dr Lidden comments

positively on the "good teamwork and camaraderie between the junior medical and nursing teams". However, she notes that, at the time, "Consultants weren't very present on the neonatal unit due to covering both paediatrics and neonates".

Consultant neonatal wards at this time occurred on two days a week, and Dr Lyddon comments:

"... from memory, there was some resentment from the nursing staff that the Consultants weren't more present."

Despite this, Dr Lyddon was of the view that "the quality of relationships on the neonatal units didn't affect the care received by the patients".

As with other doctors undergoing their training in paediatrics, Dr Lyddon rotated around hospitals, moving approximately every six months. Dr Lyddon's evidence is that when she moved to Liverpool Women's Hospital in September 2015 as part of her training there were:

"... some general comments that [the Countess of Chester Hospital] was having a tough time and lots of difficult cases. From memory these were generic comments between nursing and medical staff."

Whilst at the Countess, Dr Lyddon was involved in the cares of Child A and Child B and can, she says:

"... recall discussions between paediatric trainees

and NNU nursing staff that the rashes [or] skin changes, seen in both babies, [were] unusual and no one had seen anything similar before."

Dr Lyddon says:

"I personally did not have any suspicions about Child A's death and Child B's collapse."

Dr Lyddon was also involved in the care of Child E and Child, F, being present at their birth. She sets out in her statement that in relation to Child F she:

"... documented four results relating to the hypoglycaemia (hypo) screen sent on 5 August 2015."

Dr Lyddon also put in the notes that she discussed the results with Dr ZA and recorded:

"D/W discussed with Dr ZA -- insulin high, c peptide low -- unusual for hypoglycaemia."

Dr Lyddon states she can not recall how she received the results, nor can she recall the conversation with Dr ZA. She says:

"... as a junior member of medical staff I didn't appreciate the relevance of these results."

She goes on:

"As they were results I was unfamiliar with interpreting I discussed them with the consultant responsible that week, Dr ZA. I assume I documented the word 'unusual' after my discussion with Dr ZA as that

was Dr ZA's interpretation of the results."

Dr Lyddon's evidence is that she had no suspicions about Letby but refers to:

"... vague memories of there being various discussions at points about the unusually high number of collapses and deaths on the unit."

She goes on to say:

"I recall being aware at some point that the consultants collectively raised concerns and were considering potential reasons. One potential reason I remember being considered was if the TPN ([the] total parenteral nutrition bags), could be contaminated or issues with equipment."

Dr Lyddon does not recall any safeguarding training covering what to do if there were concerns that a member of staff was abusing patients, nor does she recall any specific training on processes around a child death.

Had she had any concerns at the time she says she would have spoken to a Consultant and that:

"... as an extremely junior member of staff, I wouldn't think to take concerns outside of the Trust as a first point of action."

However, Dr Lyddon says:

"... if I had concerns now (as a consultant) would speak to other consultant colleagues in the first

instance. I would then want to discuss with the Medical Director and seek advice from my defence union and the RCPCH about where to go next."

Dr Gail Beech worked as a junior doctor at the hospital during a similar period, between January and September 2015, returning to work at the hospital again after June 2016. Like Dr Lyddon, she also refers to the issue of Consultant rounds stating:

"... when I returned to work at the hospital after June 2016, the most noticeable difference ... was that there was a consultant led ward round on the NNU daily compared to twice per week before this date, and a named consultant responsible specifically for the NNU every day, rather than it being covered by the Consultant also on duty for General Paediatric. This felt like a positive change."

Dr Beech cannot recall any negative relationships between staff. Her view now as a Consultant and based on experience throughout her career is that relationships between staff do affect the quality of care being given to babies and comments on:

"... positive relationships impacting positively and vice versa."

Dr Beech says that whilst working as a junior doctor:

"I was not aware of how deaths on the NNU were usually investigated."

In relation to safeguarding training, she states that while she kept up to date with training:

"I cannot specifically recall it being mentioned during any of this training about abuse on the part of a member of staff towards babies or children in hospital."

Dr Beech says she was not on shift when Child A died and was not fully aware of the circumstances surrounding his death. Neither was she on duty when Child B collapsed.

She notes, however, that Child C's death:

"... was unexpected event to me personally as he had overall been making progress and the last time I had seen him on 12 June 2015, he had been very stable."

Dr Beech does not recall any discussion about any possible similarities or connections between the death of Child A, Child C and Child D and the collapse of Child B. She states that she was "never worried about the number of deaths on the NNU", noting that she had not worked at a Level 2 NNU prior to her time at the Countess of Chester and thus, "did not have anything to compare it to".

Many of the junior doctors working on the NNU at

the time were either completing their two years' foundation training or, like Dr Lyddon and Dr Beech, on a six-month placement at the hospital as part of their specialist paediatric training.

Dr Christopher Woods gives a slightly different perspective, as he was a GP trainee carrying out a paediatric neonatal placement. He comments positively on how "supportive" the Registrars and Consultants were during his placement.

Dr Woods was present at Child A's collapse and death. He does not recall being invited to a debrief and goes on to reflect:

"I do think that this should have occurred ... the death of Child A was the first neonatal resuscitation I had been resolved in and a debrief would be important for staff wellbeing as well as learning from the process."

On the broader topic of debriefs, Dr Woods says:

"I feel that any member of staff involved in a resuscitation effort (successful or not) should be invited for a debrief about this."

Dr Hor, like Dr Woods, worked at the hospital as a GP trainee between February 2015 and August 2015 and describes:

"... a safe and supportive work culture on the

NNU."

Dr Hor was present at the start of the resuscitation attempts for Child A and notes that:

"... It felt unusual to have a number of sudden deteriorations of neonates during my time there."

However, Dr Hor goes on to say:

"Due to my limited experience in neonates, I did not bring this to anyone's attention at the hospital or elsewhere."

Dr Lucy Beebe was also a trainee GP. She worked on the neonatal unit between August 2015 and February 2016. She comments on the fact that:

"... the doctors and nurses worked well together with a mutual respect."

Dr Beebe was involved in the care of Child I, and in her police statement commented:

"I remember being quite frustrated that she would go out to other Hospitals and then in a few days she would come back better but with no answers."

In her statement to the Inquiry, Dr Beebe says:

"I remember being shocked about Child I's death because I was not expecting her to die. Despite her recurrent medical emergencies, I remember she had been doing well and I thought she had come to a stage where she was likely to be discharged home to her family in

the future."

Dr Beebe recalls in her police statement an occasion where she saw Letby crying inside room saying:

"It's always me when it happens."

But is unable to recall when this occurred.

Dr Beebe says this did not concern her as her interpretation of the event was that Letby "had an unfortunate run of shifts". Dr Beebe states that she:

"... did not have any suspicions about Letby during my time on the NNU and was not aware of any concerns being raised about her."

Dr Simon Greaves also worked on the NNU as part of his GP training during the period from August to December 2015. In contrast with most other trainee doctors, he did not "feel particularly welcome there." He described:

"... an unpleasant atmosphere and not a particularly collaborative one between doctors and nurses on the NNU."

Dr Greaves states that he was not aware of the suspicions or concerns of the others about the conduct of Letby.

Dr Veronika Jiraskova was also a GP trainee at the hospital working in the paediatric team between August 2015 and February 2016. Like Dr Greaves, her

experience of time on the NNU was less positive than others:

"I found that the unit did not feel like a team that was working in a cohesive way, with some doctors disliking others ... I did not enjoy my time on the unit."

She continues:

"... the team spirit in general did not feet healthy."

She adds:

"... people were talking about behind one another's back and GP trainees were generally looked down at."

However, Dr Jiraskova notes that things became better the longer she was there and as she "got to know the people". Dr Jiraskova notes that she was "completely unaware of the suspicions or concerns of others about the conduct of Letby", discovering the allegation only through the media.

She expresses in her statement her personal "great doubts" that Letby "has committed the crimes that she denies".

Dr Sarah Rylance worked part-time as a paediatric Registrar at the hospital from February 2014 to July 2015. She describes the existence of:

"... a positive and supportive relationship between

doctors, nurses and midwives at the hospital."

She also notes that:

"... the atmosphere on the NNU was caring and friendly, with respect for relationships between medical and nursing staff."

Dr Rylance had involvement in the care of Child C and Child D. She has no independent recollection of Child C and was not on duty when Child C died.

In relation to Child D, she notes in her statement to the Inquiry:

"I was surprised when I learned of Child D's death, since when I left the hospital at the end of my shift on 21st June 2014, I believe Child D was improving clinically and would have a positive outcome."

She adds:

"To the best of my memory, I don't believe I was involved in any debrief. I believe that there should have been a debrief relating to the death of Child D and that I should have been involved, even if it occurred after I had left the Trust."

Dr Sally Ogden, now a Consultant neonatologist, worked at the Countess of Chester Hospital from March 2015 to September 2015 as a paediatric Registrar. She notes that:

"... as far as I was aware there was a good

relationship between the nurses, midwives, junior doctors and the consultant team."

Dr Ogden had been involved in caring for Child A, and in her police statement said that Child A's death came "completely out of the blue".

In her statement to the Inquiry Dr Ogden explains that Child A:

"... had been stable for a preterm baby with stable blood results and requiring relatively moderate support."

Dr Ogden was involved in requesting an urgent post-mortem for Child A and was also involved in the care of Child B.

Dr Ogden states that:

"... the verbal post mortem initial findings did not identify a treatable cause for Child A's death or give an indication for the cause of Child B's collapse."

Dr Ogden gave evidence at the Coroner Inquest for Child A on 10 October 2016 both orally and in the form of a written statement. In addressing the issue of why she did not include in her statement to the Coroner, dated 23 February 2016, that Child A's death was unexpected, Dr Ogden says:

"The reason this was not included was because I understood my statement to the Coroner was a factual

statement of my involvement in relation to Child A's care and the events that occurred, rather than including opinion or speculation. At that time, I was not aware that there was a concern about any individual staff member on the unit and I had not worked on the unit since September 2015."

Dr Ogden says:

"With the knowledge now of what occurred on the unit, my opinion that the death was unexpected may have been relevant, but at the time I provided a factual account of my involvement of the events and was aware that the death was being reviewed by the Coroner."

Dr Ogden was also involved in the care of Child C and says that on being informed of his death at morning handover she was "surprised".

She was also involved in the care of Child F and Child I. In her statement Dr Ogden says:

"I do recall finding the number of collapses or deaths on the unit at that time as unusual and concerning. I am unsure specifically when this appeared to me as unusual, but it is likely to be around the time of several of these collapses/deaths that occurred within a few weeks of each other in June 2015. Whilst I do not recall that I specifically approached any Consultant in particular to raise specific concerns,

I believe the whole department was discussing this informally as being unusual and that the senior Consultant team were raising this and investigating what could have caused this. However, at my level I would not have been involved in these specific discussions. I felt confident that the Paediatric Consultants were taking the rise in deaths seriously."

Dr Ogden goes on to say in her statement to the Inquiry:

"During my time working at the Countess of Chester, I was not aware of any specific concerns regarding Letby. I only found this out from the newspaper reports at a later date and from contact from the police."

Dr Alison Ventress, now a Consultant neonatologist, worked at the hospital as a paediatric Registrar on a number of rotations during her training, including during the periods March 2015 to October 2015, and January to March 2016.

Her evidence to the Inquiry is that:

"I think most doctors and nurses had good professional relationships and respected each other's roles and worked together well."

However, she adds:

"There was a feeling from the NNU nurses that the NNU was an afterthought for many doctors and that

paediatrics took priority and the NNU was second place. However, I think this mainly reflected the bigger workload on paediatrics compared to the NNU, which meant that doctors of all levels spent more time in the paediatric ward."

Dr Ventress says:

"... there were cliquey friendship groups amongst some of the neonatal nurses, but I didn't see this affecting the care given. I remember general dissatisfaction from some nursing staff with the management, but I can't remember any specific details."

Dr Ventress was involved in the care of Child F and recalls a morning review on 5 August 2015 on the "Grand Round" when all babies on the NNU were discussed in a round-table meeting, not cot side, with the Consultant of the week and the neonatal nurse in charge present along with junior doctors. She says:

"... from reading the notes, the initial general thought to the medical team for the cause of the low sugars combined with tachycardia was possible sepsis."

She notes that the plan was to insert a new long line and that:

"... there were no concerns that anything untoward had happened."

Dr Ventress' evidence to the Inquiry is that she

"was not aware of the raised insulin and low c-peptide" adding that:

"These results usually takes days to weeks to arrive and Child F was transferred to another hospital by then."

Dr Ventress was involved in the care of Child G on 7 September 2015 and notes in her evidence that:

"Child G's deterioration was not expected as she had been stable previously. However, unexpected deteriorations are not infrequent in any Neonatal Intensive Care unit especially in babies born extremely premature like Child G and it can happen for several reasons."

In relation to debriefs Dr Ventress says:

"Debriefs were held after unexpected deaths, but it was always difficult to find a time when all staff involved were able to attend at the same time. I do not feel a formal debrief was needed for any of the babies named in the indictment that I was involved with as none of the deteriorations led to death at that time."

Dr Ventress says she "was not aware of any suspicions about Letby" whilst she was working at the hospital and only became aware that Letby had been removed from clinical practice during a conversation with Nurse T who Dr Ventress was friends with outside

work.

In common with other doctors, Dr Ventress refers to undertaking safeguarding training noting that:

"... there was nothing specific in respect to abuse by a member of staff."

She goes on to say:

"If I had any concerns in that regard, I would initially have spoken to one of the Consultants for advice."

Dr Ventress says that as a Registrar she:

"... did not have any training at that time on the processes and organisation involved in reviewing child deaths such as Child Death Review, Sudden Death in Infancy [or] Childhood and the Coroners Office."

She adds:

"I cannot remember what the process is and procedures were for raising concerns within the hospital in 2015-2016 as I have worked in so many different hospitals before and since then."

Dr Andrew Brunton, now a Consultant neonatologist, worked at the hospital for a number of periods during his paediatric training. Notably he worked as a paediatric Registrar between February and July 2015. His view was that:

"... team working between doctors nurses and

midwives at the hospital was excellent."

He recalls a "supportive culture" and describes the Consultants on the neonatal unit as "supportive and approachable", and the nursing staff as "hard working and conscientious".

Dr Brunton was involved in the care of Child A, Child C and Child D. In his statement to the Inquiry, he describes the death of both Child A and Child C as "unexpected".

In relation to Child D, Dr Brunton describes contacting the Consultant on-call due to an "unusual" rash and:

"... an unusual pattern of behaviour for a baby who had been clinically stable previously."

He goes on to say:

"... it was clear that Child D's episode of deterioration and subsequent death were completely unexplained."

On the subject of debriefs, Dr Brunton says:

"I would have expected a debrief to have been held regarding the death of Child D. If a debrief for Child D was held, then I would have expected to be invited as I was involved in the resuscitation efforts of the baby at the time of their death. However, if it occurred on a day when I was not on duty, then it may

not have been practical for me to attend as I lived in Liverpool at the time."

Dr Brunton says he was unaware of any suspicions or concerns regarding Letby. He notes that he completed all the required safeguarding training but says he does:

"... not recall any modules that specifically focused on abuse by a member of staff to a baby."

He goes on to say:

"... if this situation was suspected in my own hospital I would initially turn to my consultant colleagues, senior neonatal nursing staff colleagues as well as the senior management team."

Whilst Dr Brunton says he cannot recollect training about when to raise concerns or suspicions regarding a colleague who is harming patients, he was aware in 2015 of professional organisations that could be approached with specific concerns, including the Care Quality Commission, GMC, General Medical Council, NHS England and the local -- Child Death Overview Panel.

In relation to the Inquest for Child A, Dr Brunton sets out that he was contacted by Dr Jayaram in relation to providing a statement for the Coroner in February 2016. Dr Brunton says he did not mention the rash on Child A as he had not seen any such rash, noting, however, he was not present when Child A

collapsed and died. He adds that in his statement to the Coroner he did not make any links regarding the death of Child C and Child D and the collapse of Child B as it had never been suggested to him that the incidents were linked, noting that he left the Trust approximately four weeks after Child D's death and was unaware of any ongoing concerns regarding the neonatal unit at that point.

Dr Soni, now a Consultant paediatrician, was working as a Registrar at the hospital between September 2015 and February 2016. Dr Soni states that she had no concerns about working relationships in the hospital and describes the paediatric department as "a popular place to work". Noting that:

"... We as trainees had a lot of respect for the consultants and they were all very supportive."

Dr Soni's evidence is that:

"I was not particularly worried about the number of deaths but I thought it was strange."

She states that she:

"... was not aware and had no idea of the suspicions and concerns of others about the conduct of Letby ... I had never considered the possibility that someone was harming the babies."

In relation to debriefs, Dr Soni notes:

"I think there should be a process with the neonatal unit to discuss all collapses [or] arrests in a structured way and all the members involved in the baby's care should be informed about the outcome."

In common with other doctors, Dr Soni's evidence is that:

"I do update my safeguarding training regularly as part of my mandatory training and revalidation but there is no training about abuse or harm from members of staff to children and babies."

Dr Soni states that if faced with a safeguarding concern in the context of suspicion or abuse by a member of staff towards babies or any patient she would raise this via their manager and "seek advice from the Trust safeguarding team" and "share information accordingly and escalate".

Dr David Harkness was a paediatric Registrar at the Countess of Chester from 2014 to 2016. He describes feeling "very well supported by my consultant and nursing colleagues", and describes a "friendly atmosphere", noting that he:

"... felt that the relationships between staff on the unit had a positive impact on the care of the patients."

Dr Harkness describes his upset following what he

refers to as "unexpected" death of Child A. In relation to debriefs he says:

"I do think that 'hot debriefs' those immediately after the event and 'cold debriefs', those held over the coming days or weeks are very beneficial for staff as well, as well as trauma counselling, which is now becoming common in practice."

Dr Harkness did attend a Neonatal Mortality Meeting on 26 November 2015 when Child I's case was discussed. However, he comments:

"... these meetings tend to review the events in the notes and identify any learning. It is not a comprehensive review of the case."

Dr Harkness was also involved in the care of Child E. In his statement to the Inquiry he describes being called to review Child E by Letby on the evening of 3 August 2015 and there being a subsequent episode of sudden substantial bleeding which he considered to be "out of nowhere" and something he had "not seen before or since".

Dr Harkness goes on to say:

"Child E then suddenly deteriorated and I noted a strange discolouration over his body."

Dr Harkness says that he:

"... had seen this before in Child A ..."

Adding:

"... at this time, I did not have any concerns of this being due to malicious activity and had no reason to raise it as a concern ... whilst the unusual discolouration was strange Child E was on different medications and fluids to Child A and no link could be established from a medical point of view between the two."

In his current role as a Consultant paediatrician and as named doctor for safeguarding children, Dr Harkness has received extensive safeguarding training. However, he states that he has:

"... not received any specific safeguarding training relating to suspected abuse of patients by staff towards babies or children in hospital ... to my knowledge this is not commonly included in the level of training required of any paediatrician".

Regarding training on procedures following a child death, Dr Harkness says:

"I do not remember there being any in depth training regarding CDOP [Child Death Overview Panel] or ... [Sudden Death in Children] or coronial procedures during my training, as such, I would certainly not describe it as comprehensive. I would not have expected this to form a core part of our training other than

a brief overview as part of wider safeguarding training."

Dr Harkness also sets out in his statement to the Inquiry his view that:

"... coroners are not extensively trained and experienced in neonatal death to challenge the information given."

He also comments:

"I feel strongly that where there is no clear evidence of cause of death and/or death was not anticipated 24 hours previously, these deaths should be managed following SUDiC [or] PRUDIC protocols [PRUDIC being the Welsh equivalent of the Sudden death in childhood protocol] with wider discussion with Named Doctors for safeguarding and/or child death, alongside coroners and the Police where appropriate. Named Doctors for child death must encourage and actively take part in discussions when children die on the NNUs and must be involved in perinatal morbidity and mortality discussions ... The experience and background of the Named Doctors will vary, with some having very little neonatal experience and it is essential that they consider and respect the opinions of colleagues with neonatal experience, and consider seeking guidance from other Named Doctors especially those with neonatal

experience."

Dr Emily Thomas, now a Consultant paediatrician, worked at the Countess of Chester from March 2015 to September 2015. She describes the neonatal unit as being "friendly", saying that it was "easy to work with the nurses on the neonatal unit", and that she was not aware of any "negative relationships". Like many of the trainee doctors she describes feeling "supported" as a trainee and comments that she felt that "communication between doctors and nurses was good", and that she felt comfortable "asking for help and advice". She comments on the fact that:

"... staff tended to enjoy working there and would ask to rotate there because it was known to be a positive working environment and the consultants were supportive."

Dr Thomas was involved in the care of Child A and Child B and describes being "really surprised" on learning that Child A had died.

She was also involved in the care of Child D and discussed the rash on Child D with Dr Brunton. She was part of the medical team involved in the attempted resuscitation of Child D, she says:

"As far as I am concerned, Child D's deterioration and death were an unexpected event."

Dr Thomas comments in her statement to the Inquiry:

"Following the resuscitation, I recall that Letby commented that 'this is the second baby that this has happened to. This has happened to me a couple of times.' This did not strike me as particularly unusual, however, I think what stood out to me was how upset Letby was. At the time, immediately after we stopped resuscitation, we were all very much in shock and quietly upset. Letby was visibly upset and needed comforting. At the time I attributed this to the fact that she had recently been at the resuscitation and death of another baby, and therefore found the similar situation more difficult to cope with."

Dr Thomas has a specific recollection in relation to debriefs. She recalls being asked by Consultant Dr Newby to produce a PowerPoint presentation containing a timeline of events and results from Child D's case to generate wider discussion at the joint paediatric and obstetric Morbidity and Mortality meeting. Like other doctors, Dr Thomas emphasises her view that:

"... a debrief or discussion about any serious incident is important."

She comments in particular in relation to Child E whose care she was involved in:

"I remember being worried that I had missed

something so I think that a debrief would have been helpful."

Dr Thomas's perspective from her current position as a Consultant is that as a trainee with limited experience the number of deaths:

"... did not stand out to me at the time. As a rotating trainee, I would not have known about the bigger picture."

She notes that she had previously worked at the Liverpool Women's Hospital, which, as a Level 3 unit, cared for sicker babies, so her experience of what was normal was probably influenced by this. She goes on to say:

"It is only since working as a more senior doctor on other Level 2 neonatal units that I have gained the breadth of experience to note how unusual the number of deaths and unexpected collapses were. For example, I have only been on shift for the death of one baby in a Level 2 neonatal unit in the last nine years."

Dr Thomas comments that she has safeguarding training which is renewed every three years and that at the hospital where she is currently employed training includes additional annual face-to-face training. She notes, however, that the safeguarding training she has received "does not cover what to do if there are

suspicions of a member of staff harming a patient".

She goes on to say:

"I am not aware of any training that covers this."

Dr Thomas, in reflecting on events in her statement, sets out the following:

"Closer scrutiny of neonatal deaths also now occurs, which is a good thing, as often lessons can be learnt to improve clinical practice and provide higher quality care. Currently [regionally] all neonatal deaths are being discussed with the Coroner. This practice should continue. It would also be helpful for junior members of staff in all health professional teams, who night not have a good understanding of NHS management systems to know how to escalate concerns easily. There should be regular reminders about how to access this process. This would also be useful for rotating junior doctors who may not be familiar with the Trust they are working in."

Dr Verghase worked on the Countess of Chester Hospital during his training notably between September 2015 and 2016 as a paediatric senior house officer. He subsequently returned, working at the hospital between September 2016 and March 2017 as a Registrar.

Dr Verghase states that there was:

"... always a good relationship between medical professionals (doctors nurses midwives and others) at the hospital and that is why I requested to go back to work at the [Countess of Chester Hospital]."

Dr Verghase comments that:

"... at other units I have worked in there would have been a consultant face to face review of NNU patients 1 to 3 times a day. However, when working at the [Countess of Chester Hospital] if I had any concerns with regard to any specific neonate all the consultants were responsive to my earns and would have seen the neonate either of their own accord or if I requested."

Dr Verghase says he did not have any concerns or suspicions about Letby. However, he adds:

"... over the years I have seen NHS whistleblowers so persistently poorly treated that it would make me very nervous to raise my concerns if I ever had any."

Dr Katherine Davis underwent her two years foundation training at the Countess of Chester from 2009 to 2011 and then returned during her paediatric training working at the hospital from March 2015 to September 2015. Dr Davis comments that she:

"... never had any concerns about the quality of care provided to the babies on the neonatal unit."

She noted also that:

"... the Consultants were some of the most supportive I have ever worked with. I always felt able to escalate concerns to my supervising Consultant and I felt confident in the clinical and non-clinical advice and support offered to me ... the paediatric department in the Countess of Chester hospital always had a good reputation with paediatric trainees."

It was Dr Davis who was crash called on 13 June 2015 when Child C collapsed. She attended and assisted in the resuscitation, requesting that the on-call Consultant, Dr Gibbs, attend. Dr Davis says in her statement to the Inquiry:

"... we always think about the 'why' something may have happened ... in this case, there was no obvious explanation as to what may have caused Child C's unexpected collapse."

She goes on to say:

"The lack of explanation for the collapse was unusual but more unusual was the lack of response to resuscitation and the complete lack of heart rate at the time of my arrival."

Dr Davis is now a Consultant paediatrician and goes on to explain:

"The total absence of a heart rate despite effective airway management, chest compressions and

resuscitation medication were not something I had experienced before, or indeed since."

Dr Davis does recall attending a debrief following the death of Child C led by Dr Gibbs and focusing on the care delivered.

Dr Davis says in her statement to the Inquiry:

"The collapse and subsequent death of Child C was something I reflected on for a long time afterwards."

She adds:

"I have subsequently been involved with a case where a child suffered from an air embolism (a known but rare complication of a surgical procedure) which led to cardiac arrest. The child's heart started beating again after a period of time, presumably when the air from within the circulation dissipated."

Dr Davis also addresses debriefs in her statements:

"The role of debriefs has become a lot more embedded in practice in the intervening years since the death of Child C. During my early training, including during the time covered by the Inquiry, debrief sessions were often fairly informal. They were 'are you okay?' type discussions. Over time, debriefs have become more formal in terms of that it is held at a pre-arranged time with invites sent to all staff involved. The role of both hot (which is held in the immediate aftermath of

an event) and cold (held a few days or weeks after the event) debriefs are much more embedded in practice in the present day than I remember it being back in 2015-2016."

Dr Davis also says in her statement to the Inquiry:

"During my 6-month rotation at the [Countess of Chester Hospital] in 2015, it became clear that we were experiencing an above average range of death and collapses. As a group of trainees, we discussed if we felt we were missing something. Due to the small number of middle grades and close working of the team it was, and still is, common practice to debrief informally with completion following a stressful event. As a result, we all knew that other babies had collapsed unexpectedly and in atypical ways. When we attended regional teaching or local paediatric courses colleagues would ask if we were doing okay as they had heard that we were having a particularly bad run in the [Countess of Chester Hospital]."

However, Dr Davis adds:

"I was not privy to any concerns being expressed as to the collapses being unnatural in cause or because of substandard care."

LADY JUSTICE THIRLWALL: Would that be a convenient moment?

MS BROWN: Yes.

LADY JUSTICE THIRLWALL: And I think we can see that we are just over halfway through, so I think your two-hour estimate was rather pessimistic.

MS BROWN: Yes.

LADY JUSTICE THIRLWALL: So we will break now and come back at 20 past 3.

(3.01 pm)

(A short break)

(3.20 pm)

LADY JUSTICE THIRLWALL: Yes, Ms Brown.

MS BROWN: Dr Peter Fielding, now a Consultant in paediatric emergency medicine, worked at the hospital at the start of his specialist paediatric training between September 2015 and March 2016. He says that:

"... the consultant team at the Countess of Chester had (and continues to have) a strong reputation amongst paediatric trainees in the Mersey Deanery for being a committed highly professional and welcoming team who care about their trainees and provide a good learning experience for trainee doctors."

He describes the Consultant team as:

"... a very visible presence on the wards and always accessible."

He adds:

"I can say that the Consultant team at the Countess of Chester during my placement there were one of the most supportive, passionate and caring teams that I have worked in."

In his statement to the Inquiry Dr Fielding says:

"I do recall wondering whether the number of babies who deteriorated or died during my time at the Countess of Chester was high. I had no reference point to compare this against as I had never worked in neonatology before, and I remember voicing this question to one of my registrars at the time Dr U. From what I can recall, Dr U agreed the number of collapse episodes seemed high, but that his overall feeling was that this was a bad or unlucky run, which can happen at times."

Dr Fielding says:

"... at no point during my six-month placement at the Countess of Chester was I aware of the suspicions or concerns of others about the conduct of Lucy Letby. Nobody discussed any concerns about Lucy Letby directly with me."

Dr Fielding was involved in the care of Child G, being called to attend on 21 September 2015 following an incident when Child G had vomited and oxygen levels had fallen. Dr Fielding reflects as follows:

"Taken as an isolated episode this is not the sort of incident that would lead to a debrief or any form of clinical incident reporting. In the wider context of a significant number of babies having unexpected collapse episodes however, maybe a flagging up of each unexpected collapse episode would have demonstrated a pattern of repeated unexpected collapse and deterioration on the unit."

In relation to safeguard training, Dr Fielding says he does not recall being given specific training on what to do where abuse on the part of a member of staff towards babies or children in a hospital is suspected. However, he says:

"... despite this, I am confident that had I suspected such behaviour, I would have known how to escalate my concerns to senior safeguarding figures at the Trust."

Dr Rachel Chang worked at the hospital as a paediatric Registrar between September 2015 and April 2016. She says she:

"... never felt any hesitation in being able to approach Consultants to escalate issues or concerns."

She goes on to say:

"I always felt supported and always felt that there was a consistent consultant presence on the NNU. I felt

that the quality of care was always of the highest standard."

She adds:

"I felt the nursing staff were highly skilled and competent."

Dr Chang described the system of debriefs that operated at the time as follows:

"With regard to debriefs, they do occur but not always formally. If for instance there is a death of a baby there will be an immediate debrief with anyone who is present. After a couple of days a Consultant would catch up with you and discuss what happened possibly during a weekly ward round. There were formal debriefs that would be instigated by Consultants. The staff involved with a particular baby that died would get an invite to a debrief."

Dr Chang was involved in the care of Child I. In her statement to the police she says:

"Child I had almost regular events where she would be really sick and then 'bounce back'. Matt Neame [that's Dr Matthew Neame] had been resuscitating poor Child I every night shift then every morning at handover I would be like 'Oh my God, Poor Child I and poor you,' and then would have a day shift of where we would say "Oh, she's not been too bad' as she had seemingly

recovered quite quickly."

Dr Chang goes on to explain in her statement to the Inquiry:

"I never questioned why Child I had been so unwell on the night shifts compared to her relatively stability during the days. During my previous neonatal placement some babies were just repeatedly unwell, as they were fragile and unpredictable at times."

Dr Chang goes on to say:

"... it had not entered my mind as a possibility that incompetence or deliberate harm might be causative of Child I's nighttime deteriorations."

Dr Chang was also involved in attempts to resuscitate Child I on the night of 23 October when she died. In relation to debriefs regarding Child I's death, Dr Chang states she discussed her involvement with Dr Gibbs the Consultant who was called to assist the resuscitation but does not recall attending a formal debrief. Dr Chang clarifies that:

"... this does not mean that formal debrief did not occur."

She adds:

"I am sorry I do not have a clearer memory of this."

In relation to debriefs generally Dr Chang says in

her evidence to the Inquiry:

"Ideally all staff involved in an episode where a child dies should be at the debrief but this is very difficult to coordinate in a timely fashion when the multiple professionals involved are all working on different shift patterns."

In relation to safeguard training, Dr Chang confirms she has received safeguarding training but that:

"I cannot recall having received specific training on what to do if abuse is suspected by a member of staff but I know that if I had such a concern I would be able to raise this and immediately escalate to the doctor and lead nurse for safeguarding."

Dr Chang recalls having formal training by the Mersey Paediatric Deanery on Sudden Death in Infancy or Childhood and how to report cases to the Coroner, although cannot recall formal training about Child Death Reviews.

Dr Rhiannon Austin worked as a paediatric Registrar at the hospital between September 2015 and March 2016 and from September 2016 to March 2017. Dr Austin comments on the fact that she felt that:

"There was generally a good relationship between medical professionals (doctors, nurses, midwives and

others) at the hospital."

And that Consultants:

"... were always supportive and available for advice."

She goes on to say:

"I would say that my consultant colleagues at the Countess were more approachable and supportive than at other hospitals I have worked at ..."

Noting also:

"... as a junior doctor in training, the paediatric department at the Countess of Chester was known to be a lovely place to work at and trainees enjoyed being placed there due to the supportive and approachable consultant body."

In her statement to the Inquiry, she says that she:

"... was aware that between junior colleagues there were informal discussions about how sad it was that there had been a number of sick babies and that it must be difficult for the nursing staff of the NNU and the doctors involved with those patients as well as their families."

Dr Austin says in her statement to the Inquiry:

"I was worried about the number of deaths on the unit. During the first few months as an ST3 [that's a third year of specialist paediatric training] at the

hospital I was aware of colleagues who had very difficult shifts on the NNU, but as I was a relatively junior doctor and I wasn't sure if this was a natural fluctuation in mortality, as can sometimes happen, or if it was something to be concerned about. I recall having informal conversations with consultant colleagues and that they were reviewing the situation."

Doctor S worked at the hospital from March 2016 to September 2016 and comments:

"I always felt very well supported and happy with the whole team."

Doctor S goes on to say:

"In terms of the culture at the Hospital, as compared to other hospitals that I had worked at as part of my training rotations, I would say the culture at the Hospital was one of the most supportive, friendly and approachable places to work within the region. Trainees would, and still do, request to work at the Hospital due to the positive culture within the paediatric and neonatal departments."

Doctor S goes on to say in relation to concerns or suspicions:

"I had not heard of any problem regarding the quality of care, quality of management, supervision and/or support for doctors at the Hospital in 2016.

I had heard that there were some unusual or complex collapses/deaths, but there was nothing regarding the quality of care/support for trainees."

In referring to knowledge of processes used to review a child death, Dr S emphasises the difference in training depending on a doctor's experience, noting that:

"It is only since becoming a consultant that the process of Child Death Review and Child Death Overview Panels have been more understood. As a trainee, sudden death is not a common experience that you see ... Trusts have a Child Death Overview Panel representative ... you may not know about that as a trainee unless you have encountered a sudden death."

Doctor S was involved in the care of Child O and describes the information that Child O and Child P had died as being:

"... a total shock to me."

Doctor S was also involved in the care of Child Q and she notes:

"I would not have been able to predict from Child Q's presentation that they would deteriorate so suddenly."

Doctor S's recollection is that she became aware that others had concerns about Letby in the last couple

of months before she moved rotation, so in July and August 2016, once Letby had been moved off the ward. She describes:

"... general discussion within the team, that Lucy Letby had been present at the time of many of the collapses and resuscitations of the babies."

Dr James Smith worked as a locum Registrar at the Countess of Chester Hospital for a three-week period in February 2016. During that period, he was involved in the care of Child K. One of the things that Dr Smith, now a paediatric Consultant, recalled from this brief period at the hospital was a conversation with Dr Gibbs who told him that there had been a number of deaths on the neonatal unit over the past year and they were worried but were not sure why this was happening. Dr Smith says of this conversation, that whilst he was unable to remember the exact words:

"I remember being concerned by how worried Dr Gibbs seemed and this has stayed in my memory long after working there."

Dr Jessica Burke worked as a junior doctor at the Countess of Chester Hospital at various points in her training including from March 2016 to September 2016. She describes the paediatric department as having:

"... a positive reputation in that it was busy but

supportive, friendly and a well-run department so a good placement."

Notably she comments on an:

"... environment that welcomed discussion of cases that had confused or upset us."

Dr Burke acknowledges however that having assisted in the resuscitation of Child P:

"I felt quite anxious and sad when I was on the neonatal unit but I put this down to my own distress of having been called to assist in the resuscitation for a baby who did not survive."

Later in her statement Dr Burke says:

"In the years since, I have been part of a resuscitation team for more paediatric and neonatal cardiac arrests. In the monitored environment of an NNU I have never again, since Child P, attended a neonatal cardiac arrest where the cause was entirely unknown."

She describes the rapidity of Child P's deterioration and his continued cardiac arrests despite initial successful resuscitation as:

"... entirely unique for me now with my subsequent 8 years of experience."

Dr Burke comments that when she worked at the Liverpool Women's Hospital on a much larger tertiary neonatal unit, there were Advanced Nurse Practitioners,

and that she considers their presence enhanced the educational opportunities and support for trainee doctors and that this fed into improving care for patients.

Dr Burke adds:

"In retrospect I now also wonder whether the culture of having ANPs [Advanced Nurse Practitioners] who are employed long term and do not rotate, benefits the care in terms of another consistent clinician group [in addition to neonatal nurses and consultants] who can potentially recognise patterns or changes and identify outlying events over a longer period than the 6 months that most junior doctors spend on one placement."

In relation to training on safeguarding, Dr Burke refers to the Royal College of Paediatrics and Child Health guidance in the RCPCH Child Protection Companion. This sets out that children in hospital can be abused by health professionals and suspicions must be reported to the consultant in charge and the named or designated professional without delay.

In reflecting on events, Dr Burke suggests that if concerns are raised that a member of hospital staff may be harming patients, there should be:

"... a standardised pathway of escalation, high alert and monitoring."

With the clinical and safeguarding lead being notified along with a management representative, as well the Child Death Overview Panel and the Medical Examiner. Dr Burke also expresses the view that:

"The potential for healthcare staff inflicted harm on patients needs to be covered by medical and nursing education programmes."

Dr Cooke worked at the hospital as a paediatric senior house officer from December 2015 to January 2017. She was involved in the care of Child O and states that she:

"... would not have anticipated Child O's collapse ... it was an unlikely event to happen."

Dr Cooke was urgently called to attend Child P and assisted in the resuscitation attempt. She describes Child P's death as "unexpected" saying that Child P "was making good progress." She says however that she was not aware of any concerns or suspicions of other doctors or nurses in relation to the circumstances of Child O or Child P's death.

Dr Anthony Ukoh worked at the hospital for a brief period between April and August 2016 as a paediatric registrar. He was involved in the care of twins Child L and Child M. In the case of Child L he requested a blood sample due to low blood sugar levels. His

evidence was that he did not see the results at the time but that had he done so "he would have wondered if Child L had received exogenous insulin". His evidence to the Inquiry is:

"I would have repeated the blood tests, discussed with the Consultant on duty, other team members and possibly escalated to the case to the Paediatric Endocrinology team for further advice."

In relation to Child M, Dr Ukoh says he examined Child M on the morning of 9 April 2016 and:

"... did not note any clinical signs or symptoms that caused me concern."

Dr Ukoh was called to Child M later in the afternoon of 9 April 2016 and describes Child M's collapse as "completely unexplained" noting also that:

"... even after resuscitation, various investigations carried out (chest and abdominal x-rays and blood tests), did not confirm any obvious detectable cause."

Child M was successfully resuscitated and Dr Ukoh says that for this reason there was no debrief; this would only occur where a baby died.

Dr Ukoh was also involved in the care of Child N. On examination of Child N on 15 June he noted concerns about mottled skin and dried blood around the lips and

inside the oral cavity causing him to seek Consultant advice.

Dr Ukoh was also involved in the care of siblings Child O and Child P. Significantly he assisted in the attempted resuscitation of Child P. However, Dr Ukoh does not recall any debrief, beyond some discussion about the similarity of circumstances of the deaths of Child O and Child P.

Dr Bhowmik worked as a paediatric registrar at the hospital from March 2016 to September 2016. Dr Bhowmik, now a paediatric Consultant, was involved in the attempted resuscitation of Child O. Dr Bhowmik recalls discussing the sudden collapse of Child O and examining Child P and Child R, following the death of Child O. She states that when she learnt of the death of Child P she was:

"... very surprised to hear this and had discussions with fellow trainees, who were all surprised as well."

She says that:

"At some point after this, I was informed by the Consultant about the previous mortality concerns on the unit (which I was not aware of before) and the decision to invite the RCPCH to conduct an inquiry into this."

Dr Bhowmik states that when she was working at the

hospital, she did not have any concerns about Letby and only became aware of suspicions after the police investigation had commenced.

My Lady, I now turn to evidence from doctors who did not work directly on the neonatal unit.

Dr Joanne Davies was the Consultant clinical lead for obstetrics and gynaecology at the Countess of Chester Hospital during 2015 and 2016. Her evidence is that:

"Generally, relationships were good between the different professional groups within the hospital."

Her observation of the NNU nursing staff was of them:

"... working closely as a team with the doctors, having good communication skills, and empathy and support for the women who were our patients."

She adds:

"I observed relationships between obstetric and neonatal staff to be good. I felt they worked well as a team, to give the best care to both mother and baby."

Dr Davies was part of the Obstetric Review that took place within 24 hours of the death of Child D. She says of the death of Child D:

"This case was reviewed by the Obstetric Secondary Review team immediately as this was a term baby that had

died unexpectedly, with no known fetal concerns in labour. This is a rare event."

Dr Davies goes on to say:

"I considered the death of Child D to be unexpected."

Dr Davies was a recipient of the email on 22 June 2015 that Dr Brearey sent to colleagues after the death of Child D, referring to the fact that this was the third death on the Neonatal unit within a short time."

Dr Brearey's email, referring to the deaths of Child A, C and D had stated:

"There does not seem to be any staff (medical or nursing) members present at all three episodes other than one nurse, who was not the nurse responsible for Child D on that shift."

Dr Davies explains that this information did not worry her as:

"Any concerns would have related to whether the member of staff needed additional training or support, which I would expect the Neonatal Nurse Manager to follow up and act on. The wording of Stephen Brearey's email reassured me that they had reviewed all possible factors, including environment and staffing, and that they had found nothing that related to the three

deaths."

Dr Davies refers in her statement to the fact that the Obstetric Review and the Neonatal review in relation to Child D were combined into one case review which concluded that:

"No factor in either the obstetric or neonatal care could be identified that accounted for the child's death."

The post-mortem finding was that the cause of death of Child D was pneumonia with acute lung injury likely already present prior to birth. Dr Davies goes on to say:

"I and other members of the obstetric team still found it difficult to understand how a fetus could develop acute pneumonia, where there had been no clinical signs of infection during labour or the post natal period of the mother and why there were not more features in the baby and placenta of overwhelming infection."

Dr Davies notes however that she respected the expertise of the pathologist and the paediatricians.

Dr Davies says that it was in September 2015 that she had been alerted to "possible higher than usual mortality rates" and that she spoke to Dr Jim McCormack, (the Lead for Obstetric and Gynaecology Risk),

Julie Fogarty (Head of Midwifery) and Stephen Brearey:

"... and informed them of the increased still birth and neonatal deaths that I had identified."

Dr Davies explains that she personally did not raise the concerns with the Executive team as at the time she felt it was necessary to do a detailed review of all the cases prior to further action. Dr Davies says it was a joint decision between her, Jim McCormack and Julie Fogarty that a review should take place and that she discussed the need for a review with Dr Brearey.

Dr Davies acknowledges that the report entitled "Review of neonatal deaths and still births at the Countess of Chester Hospital January 2015 to November 2015" was inaccurately titled and should have been referred to as "Review of the Obstetric Care of Neonatal Deaths and Stillbirths" because the report was solely focused on obstetric care and did not consider neonatal care.

Subsequently, in March 2016, Dr Davies was sent Dr Brearey's thematic review of neonatal care. She says that:

"The contents did not cause me any concern. If anything I was reassured. I could see a thorough review had been performed by specialists within neonatology,

including external representation from our tertiary centre at the Liverpool Women's Hospital."

However, Dr Davies goes on to say this:

"Prior to the death of the triplets, there was a general feeling that something was not right with the NNU as we had previously had such low mortality rates. There were rumours amongst the obstetric and midwifery staff and there was an occasional unfounded comment that we had another 'Beverley Allitt'. We were always quick to stop this gossip as it felt completely unthinkable."

Dr Sara Brigham, like Joanne Davies was a Consultant obstetrician and gynaecologist at the hospital. She was the clinical risk lead for obstetrics between 2013 and 2017. In her statement to the Inquiry she explains that during the period 2015 to 2016 the neonatal service and paediatric service sat within the Urgent Care Division and maternity and obstetric Services sat within the Planned Care division, which had its own medical, nursing and operational leadership. The two services were brought together through the Women's and Children's care governance board chaired by Dr McCormack, who was also a Consultant obstetrician and gynaecologist.

During this period, maternity and neonatal services would have investigated any incident separately.

Dr Brigham states that in the current system any review would be planned jointly and if a death occurred in the neonatal unit the maternity service would provide a full review of care up to and including delivery.

Dr Brigham had time away from work between June 2015 and October 2015, and on her return to work in October 2015 she was advised 'that there had been an increased number of baby deaths'. This led to a review of the obstetric care of these babies and the report written in November 2015.

Dr Brigham states that she:

"... believed that the neonatal team had already looked at the neonatal care and had not found any clinical themes."

The November Obstetric Review was of 18 stillbirths and neonatal deaths which had been identified by the risk team. Six of the 18 cases were neonatal deaths. Dr Brigham confirms in her statement to the Inquiry that this included the deaths of Child A, Child C, Child D and Child E.

Dr Brigham explains that the neonatal team were not involved in the review, although the patient safety lead Debbie Peacock and Head of Midwifery Julie Fogarty were involved. Dr Brigham says:

"... the external reviewer (Lesley Tomes, retired

Head of Midwifery and Supervisor of Midwives) felt that our review process was extremely robust and open and transparent. No new issues were identified from the review."

Dr Brigham's recollection is that concerns were raised about Letby "in the summer of 2016". She says:

"I remember the neonatal team raising the fact that they had concerns that a member of staff was at the centre of these deaths with the executive team at a meeting that I was present at ... I recall the executive team not being able to comprehend that these deaths were due to a particular member of staff."

Dr Brigham says she:

"... became aware of the concerns regarding the safety of babies on the neonatal unit in 2015/2016 and suspicions about Letby, when the neonatal Consultants came to discuss their concerns with us."

Dr Brigham is unable to recall the date of the meeting or who attended. In her statement to the Inquiry Dr Brigham sets out some of the changes that have taken place at the hospital since 2015/16. She notes that, in addition to the Women's and Children's services now being one division:

"... there is now Board oversight for perinatal services, with any neonatal death reported formally and

directly to the Board."

Dr Brigham also notes that a:

"... quality and safety dashboard and report is now presented to the Women and Children's Governance committee on a monthly basis, where death rates are included, facilitating any increase in number to be discussed by all the team and actions advised."

Dr Brigham says:

"... if we had had a perinatal dashboard in 2015/2016, the increase in neonatal deaths would have been visualised month by month for all the team to discuss and identify further investigations or actions."

Dr Butcher was a Consultant ophthalmic surgeon at the Countess of Chester Hospital. He was also the secretary to the Medical Staff Committee which acted to represent interests of all the Consultants and permanent medical staff at the Countess of Chester. During the period of June 2015 to June 2016 he screened premature babies for retinopathy of prematurity and says that he:

"... was therefore a regular visitor to the neonatal unit."

Due to the nature of his work, he says he was:

"... close to paediatric colleagues at the Countess, particularly Stephen Brearey."

Dr Butcher was told in "about 2016" by

Stephen Brearey:

"... that there were serious concerns about excess deaths on the NNU, and that Ian Harvey and Tony Chambers were trying to silence the paediatricians and that a member of staff was involved."

Dr Butcher did not have any direct discussions with senior management but he wanted the Medical Staff Committee to:

"... put on the record that the paediatricians needed our support and I remained keen that the wider Consultant membership should know what our paediatric colleagues had been going through."

Dr Butler's perspective as a Consultant within the hospital, who was not a paediatrician, was that:

"I don't think that relationships between professional groups were particularly problematic at the Countess generally."

Dr Butler is critical of the relationships between senior management and Consultants, which he dates to the appointment of Ian Harvey as Medical Director and Tony Chambers as Chief Executive. He says senior management viewed the Consultants as poorly motivated and interested in personal gain.

He described the Consultants at the Countess as "demoralised and disempowered". He says:

"Tony Chambers' antipathy towards consultants may have had something to do with his nursing background."

Dr Butcher says in his statement to the Inquiry that if he had been a paediatrician he would have gone to the police but expresses his view that:

"... this could have been a career ending move."

He goes on to say:

"I understand that there was a threat to report the paediatricians to the GMC, and this was a very potent threat, coming from the 'responsible officer' Ian Harvey."

Dr Butcher's view is that Medical Directors should not have both power over employment as an Executive Director as well as being the responsible officer for medical registration.

Dr Fiona MacRae was a Staff Grade Associate Specialist and Specialty Doctor working as an anaesthetist at the Countess of Chester. She had concerns within the wider hospital about treatment of her grade of anaesthetists that she considered "were being sidelined and marginalised". She says that the response of Ian Harvey and Tony Chambers and other managers that they:

"... dismissed to our bullying concerns and pleas for a respectful and fair working environment."

Professor Simon Kenny is a Consultant paediatric surgeon at Alder Hey Children's Hospital. He was also an attendee at some of the Cheshire and Merseyside Neonatal Network board steering group and clinical effectiveness meetings representing Alder Hey Children's Hospital. Professor Kenny notes in his statement that:

"Dr Brearey was one of the most diligent attenders of Neonatal Network meetings."

In his statement to the Inquiry Professor Kenny addresses the issue of mortality data. He notes that, with the benefit of hindsight, the annual mortality figures at Chester were high but this was not highlighted in the network meetings.

He notes that one of the issues around MBRRACE data was timelines, commenting:

"... there was locally collected timely data which was not benchmarked and nationally benchmarked data with a significant time lag."

Professor Kenny states:

"I do not think that on the basis of the mortality data presented at the meeting which I attended that a discrete signal was visible for the Countess of Chester."

Professor Kenny was involved in the table top review of Child I's care. Professor Kenny notes in his

statement that this table top review was:

"... essentially a discussion around the decision making to do with the transfers that had been involved."

Professor Kenny also carried out urology clinics at the Countess of Chester Hospital and recalls that:

"... at some point in 2015-2016 during these clinics Dr Brearey raised concerns with me over noted increases in neonatal death rates and was struggling to do you live a clear cause. I remember having several conversations with him about this and during one of those conversations he mentioned that he had mapped out which staff had been on the unit at the time of sudden collapses and that there was a single member of staff who was always present when they occurred. I agreed with him that this was both unusual and concerning and I encouraged him to [discuss] these concerns with the medical director. I am not sure whether it was by text message, phone call or at the next clinic that I learned that a Royal College review was being held. This provided me with some assurance that matters were being looked at. I was also aware that the individual was not involved in direct patient care thereafter which was reassuring pending the review outcome."

Later in his statement Professor Kenny states that as part of the discussion with Dr Brearey:

"... we discussed the possibility of foul play."

Professor Kenny continued regular clinics at the Countess and notes:

"Given the subsequent events from 2016 to the present day, I have witnessed remarkably professional behaviour from all the paediatricians at the Countess of Chester who have maintained a strong patient centred focus despite the intense pressure that they have been under."

Professor Kenny makes a number of suggested recommendations in his statement, including a statutory duty on board members to report allegations of criminality to the police, child death oversight panels having access to benchmarked mortality data, and mandatory safeguarding training to include policies on action to take if staff members have concerns about criminality.

Professor Kenny also says:

"Parents are the best guardians of their children and should have open access to the neonatal ward at all times ... Any new neonatal unit that is being built should be designed to allow parents to sleep by the cots."

My Lady, full reflection on the evidence will only be possible at the end of the oral hearings when all of

the written evidence has been taken into account and considered. However, it is apparent that a number of themes emerge from the written statements of the doctors who worked on the unit between June 2015 and June 2016.

First, that the view of the neonatal unit by the doctors that worked there during this period were predominantly positive. Many trainee doctors emphasised the supportive working environment, noting that Consultants were approachable and they felt able to raise concerns and queries with them. A minority of trainee GP doctors, it appears, did not feel so well supported.

Whilst there is some suggestion that nursing staff felt consultant rounds were too infrequent, occurring twice a week during this period, the overwhelming tenor the evidence from the doctors is of their perception that there were good relationships with nursing staff who they viewed as dedicated and competent.

It is apparent from a reading of the doctors' evidence that whilst the neonatal nursing staff and the Consultants were constant presences on the unit, there was a very considerable turnover of junior doctors due to the training scheme which placed doctors in different hospitals on six-month rotating placements. One doctor reflects on whether this meant that patterns or outlying

events were less readily identified, noting that in large tertiary neonatal units there were advanced nurse practitioners who were an additional constant presence alongside neonatal nurses and Consultants.

It is apparent that whilst some of the doctors undertaking paediatric training had an awareness of high mortality rates, none of them had made a clear connection between the deaths and Letby. The evidence of Dr Emily Thomas is perhaps representative of many:

"As a rotating trainee, I would not have known about the bigger picture."

It appears that whilst safeguarding training was undertaken by the doctors who worked on the neonatal unit, this training did not include consideration or case studies of situations where health professionals were harming children in a hospital setting. It is also notable that below Consultant level it appears that knowledge of the reporting procedures following a sudden child death in hospital, for example reporting to the Child Death Overview panels or use of the sudden death in childhood procedure, was limited.

The response of almost all of the then junior doctors was that had they had concerns they would have raised them with one of the Consultants on the unit. Some of the unit doctors spoke of their distress at the

death of the babies and of the fact that they considered the deaths unusual or the mortality rate high. Others emphasised their relative inexperience at the time, noting that it was only from their current standpoint in many cases now as Consultant paediatricians or neonatologists that they viewed the deaths as unusual.

Few of the doctors have clear recollections of debriefs during the relevant period, yet most agree on the importance of such meetings both for learning and for the well-being of staff. The difficulties in terms of the practicalities of arranging debriefs within a shift working environment is also apparent from the evidence. Some witnesses refer to an improvement in the importance and regularity with which debriefs are now approached.

My Lady, that concludes a summary of the doctors' evidence. I emphasise again that it is a summary of evidence for the assistance of these oral hearings. It does not purport to be, and self-evidently as a summary, cannot be comprehensive. It is, however, intended to assist the oral hearings, insofar as it provides some indication of themes that run through the evidence from doctors who have provided written evidence to the Inquiry.

LADY JUSTICE THIRLWALL: Thank you very much

indeed, Ms Brown. We will rise now until tomorrow morning at 10 o'clock.

(4.04 pm)

(The Inquiry adjourned until 10.00 am on Thursday, 10 October 2024)

I N D E X