Wednesday, 16 October 2013

(11.00 am)

(Delay in proceedings)

(12.43 pm)

THE CHAIRMAN: Ladies and gentlemen, I'm sorry we sat late. Thank you very much for your patience. There have been a number of issues that have cropped up over the last 48 hours which we've had to explore this morning to see where exactly they take the next week and a half in this limited segment of the inquiry's public hearings.

What I intend to do now is ask Ms Anyadike-Danes to deliver the opening, which was circulated last week on behalf of the inquiry, and then I will explore, before we go any further today, and explore some of the issues that we have been discussing in discussions with the representatives of the Mitchell family and the Southern Trust, as it now is, and one or two others.

But what I want to emphasise from the start is that the inquiry's long opening, which you'll have had a chance to see from the end of last week, deals with a whole range of issues in order to put Conor's case into context. But what this hyponatraemia inquiry is looking at in relation to Conor is actually very limited and it's more limited than the sheer length of the opening would suggest.

The reason it is more limited is because Conor did not die from hyponatraemia. The particular and specific interest of the inquiry is that Conor was treated and died in May 2003, a year after the department had taken the very unusual step of issuing guidelines, clinical guidelines, on hyponatraemia. And what the department intended and what the then Craigavon Trust did in relation to those guidelines is the specific area which is of interest to the inquiry.

So when Ms Anyadike-Danes gets to her feet in a moment to open this segment, she will not be going through the full history, she will not be going through all of the issues which are raised in the written opening; she will be bringing the inquiry to focus on why it is that we are considering any aspect of Conor's treatment at all.

That, I think, should be evident from what I said in 2008 and 2010 and it will be emphasised over the next week and a half, and I hope that that will then help everybody who comes to give evidence to know why they are being called to give evidence and what that evidence will focus on.

In saying all of this, I acknowledge that the Mitchell family feel rather more strongly than I can convey about a whole range of issues. The difficulty

is that in the context of a hyponatraemia inquiry, it would not be appropriate for me to explore those issues. That doesn't mean to say the issues don't have any basis, nor does it mean to say that I think the issues necessarily have any basis. But they are simply issues which are beyond the context of this inquiry and it is for limited purposes that some aspects of what happened in Conor's case are being explored, and those witnesses who are due to give evidence and those witnesses who have provided statements will understand, from the range of questions which they were asked, what those issues are.

Having said that as a background, what will now happen is Ms Anyadike-Danes will open this segment and then, when she has done that -- and I think we'll just go through lunch on this and allow Ms Anyadike-Danes to open. We'll then have a discussion before we finish today on what is to happen next over the next few days because there are some issues which have cropped up over the last 48 hours. But I think the tidiest way of proceeding is for Ms Anyadike-Danes to open this segment.

Ms Anyadike-Danes, would you now do so, please?

Opening statement by MS ANYADIKE-DANES

MS ANYADIKE-DANES: Good afternoon. Mr Chairman, as you've

indicated, this opening is going to deal with the inquiry's work that has been carried out into the very specific issues that arise out of Conor's case within the context of the revised terms of reference.

Having said that, it is right to say something about Conor, who of course is more than just a case. He was born on 12 October 1987 and shortly after his birth he was diagnosed with spastic tetraplegic cerebral palsy and he also had a history of epilepsy. Conor was 15 years old when, on 18 May 2003, his GP referred him to the Children's Hospital because he had been unwell for a period of time.

However, Craigavon was closer, and he was taken there instead. Although he was 15 years old, he had the body size of an 8 or 9 year-old child and only weighed 22 kilograms. That may have proved quite relevant for him. By comparison, Adam was 4 years old and he weighed about 20 kilograms. Claire was 8 and she weighed about 24, and Raychel was 9 and she weighed about 25. So that puts into context his size, I think.

The details of his treatment in Craigavon are set out in the written opening. That's quite a detailed opening and I certainly don't propose to go through, in this address, anything like that detail. It is there, it is fully referenced and you have all had a copy of it

and it will, in due course, be published on the inquiry website.

But in summary, he was examined by Dr Suzie Budd, and she was a staff grade doctor in A&E. She took blood samples, noted that he was pale, unresponsive, and had signs of dehydration -- she described a dry mouth -- and she referred him to the paediatric team, but she was advised that, at 15 years old, that wasn't suitable or, at least, he was not suitable to be placed on a paediatric ward.

He was provided with a bolus of fluids in A&E and he was admitted to MAU, which is the medical admissions unit, by Staff Nurse Bullas for the purposes of observation. During his time on that ward further fluids were prescribed and administered. Unfortunately, Conor's condition deteriorated in the course of the afternoon of 8 May and into the evening and, at or about 2030 hours, he suffered two episodes of seizure activity in rapid succession and he stopped breathing. After Conor was intubated and ventilated a CT scan was carried out, and he was admitted to the intensive care unit at Craigavon. On 9 May, Dr Charles McAllister requested a transfer to the paediatric intensive care unit of the Children's Hospital, he describes, in view of his small size and his complex problems.

Conor was accepted for transfer by Dr Anthony Chisakuta. He was a consultant paediatric anaesthetist who treated Lucy and we have heard from him in relation to that case. That is when Lucy, of course, was transferred to the Children's Hospital from the Erne in April 2000.

Conor was examined on admission at the Children's Hospital by Dr James McKaigue. He's a consultant paediatric anaesthetist who was aware of the role of hyponatraemia in Adam's death in November 1995. He was also aware of Claire's death in October 1996 and he accepted Lucy for transfer in April 2000.

On 12 May, Conor was also examined on the ward by Robert Taylor. He's a consultant paediatric anaesthetist and the inquiry has heard his evidence in relation to fluid management of Adam's case where he accepted his responsibilities there, and he had been a member of the Chief Medical Officer's working party for guidelines, which I will say a little bit about later on.

Brainstem tests were carried out in the Children's Hospital, they were shown to be negative, and on 12 May a decision was taken to discontinue treatment and life was pronounced extinct at 15.45 on that date.

So that's a very summary version of his treatment in the two hospitals.

But I want to start with the published list of issues in Conor's case because it's important to provide the context in which our investigation has been conducted and also the context within which the oral hearing will take place.

Conor's case was always going to be treated rather differently to the other cases, for the very reason that the Chairman has said, which is because he did not die of hypernatraemia, but there were concerns about his fluid management, there were concerns about whether his management -- and particularly the recording of his treatment -- complied with the guidelines that had been published in March 2002, and so he provided a very good way of trying to understand the efficacy of the implementation of those guidelines and their operation.

So that's how the list of issues was constructed around that area. Since then, Conor's family had indicated that they didn't really want to participate in the investigation. They were content for the inquiry to carry out its work and they would recognise and see its findings. So what has formed the basis of the investigation? Well, it's the care and treatment that he received in 2003 in relation to the management of

fluid balance. So that gives rise to a number of sub-issues.

What was the understanding of those who cared for and treated Conor about fluid management or at least the fluid management issues that his condition gave rise to? To what extent was fluid management and record keeping covered in the teaching and training of the people who actually treated Conor? And to what extent was the care and treatment which he received in Craigavon consistent with the teaching and training on management issues and record keeping? Conor was admitted to an adult ward at Craigavon rather than a children's ward and whether that was relevant to the guidelines.

So that's the broader compass, but what we have particularly targeted is how were those guidelines disseminated within Craigavon, how were the relevant members of staff taught about them and then, when we get to Conor's actual admission, how were they adhered to or not, as the case may be? And that's really been the focus of the investigation and the core point of our work.

Having said that, before we even get to the guidelines, there was of course Raychel's death in June 2001 that, to some extent, prompted the issuance of those guidelines. So we have started our chronology,

if I can out it in those terms, of what happened really from there and to see how the guidelines actually emerged, how personnel from Craigavon and the trust were involved in the development of those guidelines to give an indication of what they ought to have known about them when it came to Conor's admission.

And if we turn to the meetings of the working group, Mr Chairman, you will know, because we've heard evidence from three members of that group -- we have heard evidence from doctors Crean and Taylor, who were from the Children's Hospital, we've heard evidence from Dr Nesbitt in Altnagelvin -- about what happened in that first meeting of the working group on 26 September 2001. This is when it became clear to all of those that they were going to design regional guidelines to be applied throughout Northern Ireland and the way they were going to do that is have a smaller group who would actually do the drafting.

That smaller group appears to have included doctors Crean, Jenkins, McAloon and Loughrey, but the larger group that met on 26 September 2001 did include Dr Lowry from Craigavon, so he was there present, recognising what the issues were, hearing whatever the discussion was about hyponatraemia and so on.

If we then move to the actual production of the 2002

guidelines, prior to their publication they were presented in draft form to a meeting of CREST. Mr Chairman, that is a body which, normally speaking, would have been responsible for issuing guidelines of this type, but the CMO, for reasons which we will explore later on when we deal with the departmental section, had taken the view that she actually was going to have a greater degree of involvement in the formulation of these guidelines. But nonetheless, she wanted CREST to see them and, if you like, have some sort of Kitemarking over those guidelines by that body, having discussed them and approved them in a way. And that's why they were being presented in draft form to a CREST meeting on 8 November 2001.

They were also presented and discussed at a meeting on 26 November 2001 of the paediatric anaesthetic group in Northern Ireland, and that was attended by Dr Lowry, who, as I said, was Craigavon's representative on the guidelines working party. In addition, the guidelines were presented and discussed at a special advisory committee of surgery on 11 December 2001. That's one of the CMO's special advisory committees. During that meeting there was a specific request that they should be circulated to A&E departments. And that becomes of some relevance to Conor's case because, of course, Conor was

first seen in an A&E department at Craigavon.

There is an issue about the extent to which the actual poster of the guidelines was disseminated in relevant places where Conor was treated. We know he was treated in A&E and we know he was transferred from there to MAU. We have only very recently, Mr Chairman, got some material from the DLS, which helps a little bit about that. We received footage from them from a documentary titled "Casualty". That apparently was aired some time in 2003/2004, and it seems to show a guideline poster in the recovery area for paediatric and adult surgery. It's something that we haven't had an opportunity to investigate, but we will, but the suggestion is that it may be that the poster was up in areas where children might be expected to be, which weren't specifically designated as a paediatric ward. That, of course, is relevant, because MAU is a department or a ward where children might be expected to be -- just because of their chronological age -- but obviously it wasn't designated a paediatric ward. So we will explore that issue, but it's right to refer to the fact that there might be some evidence to support that.

Of course, if there is, then it brings into even sharper relief the extent to which people in those other

areas should therefore have known about the guidelines and been in a position to implement them when they had somebody who was a child, albeit for reasons of their age, not being treated in a paediatric ward.

So then if we go to the publication of the guidelines. They were issued by the CMO on 25 March 2002. As I've said, she has told the inquiry that it was unusual for her to do that. What she says is:

"There is a distinction to be drawn between public health or regional policies [and regional policies and public health come under her remit] and clinical guidelines, which generally speaking did not come under my remit, and the hyponatraemia guidelines would be an example of that."

But nonetheless she made an exception and dealt with these guidelines, and that perhaps indicated the significance and importance that they put on them and there will be an issue as to whether, having done that, all those who received them from her should have appreciated the significance that was being placed on them by the department.

The explanatory letter that the CMO sent round in relation to the guidelines -- and I think it's probably worth just pulling that up, 007-001-001. You

can see who it's directed to right at the top. That's a very broad range of people. So in addition to all the medical directors, it's going to go to all the directors of nursing, consultant paediatricians and surgeons and neurosurgeons, anaesthetists, intensivists, then specialists in surgery and burns -- because there are issues there to do with fluid management -- and consultants in A&E -- so A&E in Craigavon certainly ought to have been aware of that -- and consultant pathologists as well.

So it's a very extensive range that it's going to. And all those were being told that the guidelines had been prepared as an A2-sized poster and that was coming separately but this was just the information about them, and she explained that:

"The guidance emphasises that every child receiving intravenous fluids requires a thorough baseline assessment, that fluid requirements must be calculated accurately and fluid balance must be rigorously monitored."

And that was her signal to all those receiving it.

Her correspondence really asked for three things. She wanted the display of those guidelines:

"I ask you to ensure that the posters are prominently displayed in all units that accommodate

children."

So not just paediatric units: any unit where a child is going to be being treated, that's where I want the poster to be, is essentially what she was saying.

Of course, it gives rise to issue of what "accommodate" means and who is a child for these purposes and, when the guidelines were actually published, maybe it could have had an age range on them as the -- as the 2007 guidelines, published after Alert No. 22, did. That very clearly said at the top "1 month to 16 years". That might have assisted. But in any event, that is something that we will look at. But what the administrators and clinicians are being told here is that this poster is to go up anywhere where you're going to accommodate children. So that was the first thing that she wanted.

The second thing, and I think you can see this from the second page. Maybe if we pull that alongside, 002. If you see at the bottom of the first page, she says:

"The guidance is designed to provide general advice and does not specify particular fluid choices."

So that's absolutely clear. And how are those more detailed issues to be addressed? Well, she says that:

"Fluid protocols should be developed locally to complement the guidance and provide for specific

direction to junior staff."

And that's particularly important, she says, in sub-specialties, where that can be a real issue, such as renal medicine, burns units and neurosurgery. So it was quite clear that what the CMO was expecting was that they would have this general guidance and then there would be local protocols that would assist in the more specific and detailed issues.

So that was the second thing, the complementing of the guidelines with local protocols. And then the third thing was auditing. And you see it at the top of the next page, she says:

"It will be important to audit compliance with the guidance and locally developed protocols and to learn from clinical experiences."

That issue of auditing was something that had been discussed before when the whole question of having regional guidelines was addressed in various meetings, and here is the CMO reiterating that point that her guidelines are to be audited and so are the local protocols and that audit is geared towards learning from clinical experiences. So whatever system you're setting up, it has to assist you with that, and that's the message she was sending out.

One can see the guideline poster at 007-003-004,

just very quickly. That's the poster to be blown up in A2 size and put on walls, and one can see from that that it is a guide and not obviously expected to deal with each and every circumstance and each and every variation of fluid that might be appropriate.

In April 2002, so very shortly after this, the CMO included an article in her CMO update on the issue of hyponatraemia, and that drew attention to the guidelines and stressed the need -- and these are her words -- "rigorous monitoring of fluid balance". So she's already said it before and she's saying it again in this publication. And that was a publication that she used as the vehicle for engaging with the medical profession. It was used to highlight newsworthy items of significance to the medical profession.

Then on 23 June 2003, six weeks after Conor's death, CREST launched guidance on the management of hyponatraemia in adult patients, so it's quite clear that this whole issue of fluid management was something that the department had in its sights, if I can use that expression.

So then that's the guidelines, that's what the CMO wanted. What were the steps that Craigavon took to actually implement them? Well, the trust has been unable to supply the inquiry with any documentary

material that actually has helped the inquiry understand the strategy that was adopted to implement the guidelines, or for that matter, which would demonstrate the particular steps that were taken to implement them.

But it has provided the inquiry with materials relating to the induction of medical trainees at Craigavon and that indicates that some information or teaching was being provided in relation to fluid management and hyponatraemia, and that was happening before and after the guidelines were published. But unfortunately, that material doesn't specifically refer to the guidelines, so we're still not entirely sure at this point exactly the quality of the teaching, if any, on the guidelines themselves.

On 4 March 2004, the CMO asked the chief executives of the acute and community trusts to provide confirmation that both the children's and adult guidelines had been incorporated into clinical practice. She said:

"When the guidance was issued [I'm focusing really here on the children's one obviously], the trusts were encouraged to develop local protocols to complement the guidance and to provide specific direction to junior staff. Emphasis was given to the need to ensure implementation of the guidance in clinical practice. It

was also noted that the guidance should be supplemented locally in each trust with more detailed fluid protocols relevant to specific specialty areas. Following the development of guidance for fluid replacement in children, the Clinical Resource Efficiency Support Team [that's CREST] drew up guidance on the management of hyponatraemia in adults and the purpose of this letter is to ask you to assure me that both of these guidelines have been incorporated into clinical practice in your trust and that their implementation has been monitored."

So, one, are they in your trust, are you complying with them, two, are you monitoring complying with them? That's what she wanted.

We have received a minute of a meeting that took place on 29 March 2004, and that records clinical services manager, who was Mrs O'Rourke, asking nursing sisters to check whether the posters dealing with the management of hyponatraemia were on display on each ward and available for both nursing and medical staff. But the minute doesn't actually record what answer she received to that, so she appears to have asked the question.

Dr Caroline Humphrey was the medical director from 6 March 2003, and she addresses the issues in the CMO's letter on behalf of Craigavon. She does that in

a letter dated 7 April 2004. This is what she says about Craigavon's response to the guidelines:

"The guidelines were taken forward in Craigavon by a group of senior clinicians, including the consultant clinical biochemist, a consultant representative from A&E, two senior paediatricians and a consultant anaesthetist. The guidelines for the prevention and management of hyponatraemia in children have been adopted throughout the trust, including where children are treated by surgical teams. The guidance is included in the induction for junior doctors and detailed fluid protocols are available to medical staff. Junior medical staff are also guided to seek consultant input in the management of hyponatraemia in both adults and children and the trust has participated in a regional audit of the guidance on the prevention and management of hyponatraemia in children, which has been coordinated through the special advisory committee of paediatrics."

That was the response that the CMO got. The trust has explained, and when we look to the responsibility for having done all of that, that in 2002 the medical director, Dr McCaughey, Ms Bridie Foy, who was director of nursing as at March 2002, and Mr John Mone, who was director of nursing after her, from 2 September 2002, and Mr Templeton, who was the chief executive, they all

had the key responsibility for dissemination, implementation and monitoring of the guidelines. And Dr Humphrey, who was the medical director from 6 May 2003, she believed that Dr Peter Sharpe was the consultant clinical biochemist who was involved. There is an e-mail of 13 September 2001 from Dr Mike Smith, who was a consultant paediatrician, and he refers to this whole process and to Dr Sharpe's involvement. He says this:

"Please find attached a draft guidelines for the IV fluid replacement."

So this is even before the 2002 guidance:

"I have consulted with Bob Taylor, who was writing one at the same time, so we have blended ours. I have also met with Darrell Lowry and Peter Sharpe and this is the result. It is for us with paediatric medical and surgical patients on 3N."

So in a sense they were developing their own protocol, which, one would have thought, would have become the local protocol that would have been associated with the CMO guidelines. But it doesn't seem to be quite as clear as that. And Dr Sharpe has told the inquiry in very clear terms that he didn't have any involvement in taking forward the guidelines as they applied to children. He accepts that he carried out

work in relation to implementing the CREST guidelines, in other words the ones for adults, so this is an issue we will have to develop in the oral hearings as to exactly who was involved in developing the local protocol and what happened to the local protocol once the CMO's guidelines were published.

If we carry on with who had the key responsibility for implementing the guidelines, Dr McCaughey was asked to outline the steps that he took to ensure that the guidelines were distributed or brought to the attention of relevant staff and he's answered that by saying that the guidance was forwarded to clinical directors in all specialties. The clinical directors were to ensure, within the context of clinical risk management in their specialties, that appropriate guidance and training was being given, including display of the posters in appropriate clinical areas. He states that it was for each specialty to take those guidelines forward.

Well, who were those involved in the specialties? Dr Geoff Lee was the clinical director in MAU and Mr Ivan Sterling was the clinical director of A&E at that time when the guidelines were published. But the inquiry's been informed by DLS that Dr Lee has no immediate recollection of directions given or his actions regarding the 2002 guidelines, and Mr Sterling

had no specific recall of having received the guidelines or directions to implement them. So we have not been able to proceed, so far, to any great extent with that line of enquiry and that's something that we will have to pursue during the oral hearings.

Dr McCaughey says that any problems in implementing the guidance were to be included in feedback through the clinical effectiveness subcommittee or, if appropriate, to the medical executive committee. And he identified Dr Martina Hogan, who was a consultant paediatrician, as the clinician who would have coordinated the process of implementing the guidelines within paediatrics, which is where Conor might have gone had things occurred differently.

However, the inquiry has been told that Dr Barbara Bell in her role as head of paediatrics was the person who initiated dissemination and implementation of actions arising from the guidelines.

And it may be a question of time, Mr Chairman, because we're now in 2013 and these events would have been happening in 2002, but there does seem to be a considerable lack of clarity of exactly who was involved and who knew what and what steps they actually took. And one might have hoped that at that period of time, even if people's memories failed them, perhaps

records would be kept of what was happening in relation to these guidelines, which were actually the first paediatric hyponatraemia guidelines in the whole of the UK. One might have thought there would have been some better documentation around what was happening in relation to them.

But what is noteworthy is that the nursing staff and clinicians who actually treated Conor in A&E and in MAU have all told the inquiry that they were unaware of the guidelines in May 2003 when he was admitted. So whoever was responsible for disseminating those guidelines in those different directorates and teaching about them, whoever had that responsibility, the upshot seems to be that those who actually treated Conor weren't aware of them, and that obviously is an issue to be pursued.

If one goes specifically to the nurses, Ms Foy, who was the deputy director of nursing from June 1992, she was also, in February 2001, appointed acting director of nursing, and she held that until September 2002. She described the key responsibilities of her role, including the need to provide leadership to nursing staff, to ensure the provision of appropriate training to nursing staff, and to take steps to update her own professional knowledge. So that was her role.

What happened in relation to the guidelines seems to

be this. She accepts the trust's assertion that the director of nursing, along with the medical director and the chief executive of the trust, would have had key responsibility to ensure the implementation of the guidelines. But she's gone on to say, in a witness statement that the inquiry received on 15 October, so that's only yesterday, that the clinical services nurse manager, that's Miss O'Rourke, actually was the person who had the responsibility for ensuring that the clinical issues in relation to nursing were implemented. So she deals with clinical issues.

And according to Miss Foy, it's Miss O'Rourke who would have reported directly to the medical director on professional issues and would have reported to the medical director on clinical issues and reported only to the director of nursing on professional issues. So according to that, in her view, the responsibility lay with the clinical services nurse manager and the medical director to oversee the implementation of the guidelines. So that's just another issue to resolve as to whether people were actually clear as to who had responsibility for doing what, and if they were clear, what they actually did about it.

If I turn to Mr John Templeton, who was the chief executive of Craigavon, he held that post between

1992 and 2007. He believes that it was Dr McCaughey who would have brought the guidelines to his attention. However he understood that the implementation of the guidelines was a professionally led and managed initiative under the direction of the CMO, and whilst he accepts that, along with the medical director and the director the nursing, he held a responsibility to ensure that the guidelines were disseminated, implemented and monitored, he doesn't appear to have concerned himself with the detail of that, leaving that for the professional leads. So Mr Chairman, there will be an issue as to whether the arrangements that were put in place with he as the chief executive constituted an adequate scrutiny over the implementation of the guidelines.

THE CHAIRMAN: Is this fair to say, that the guidelines were not directed to Mr Templeton? In the letter that you referred to from the Chief Medical Officer, they weren't in fact even sent to Mr Templeton. Isn't that right?

MS ANYADIKE-DANES: That's right. That's why he says they were brought to his attention by the medical director. So the issue is, having been brought to his attention, he recognises that obviously he has a responsibility, but he looked upon them as very much a clinical issue that clinical leads should be dealing with, and the

question for him is: if nonetheless he bears responsibility, what form of scrutiny or oversight did he exercise to make sure they actually were doing that?

I'm reminded that the letter from the CMO in 2004 that actually asks what have you been doing about implementing them and what have you been doing about auditing them, that letter is addressed to the chief executive. So presumably, the CMO had in mind that even though there might be a clinical issue, she was, it would appear, of the view that the chief executive is the person who would be responsible for whatever system or mechanism was established to do that.

I just go now to look at, having said a little bit about it, but to look now in just perhaps a touch more detail, the knowledge of the guidelines where Conor was actually treated. The difficulty the inquiry has so far had is establishing with any degree of certainty exactly where in Craigavon the guidelines were displayed. I think, Mr Chairman, that's going to have to be something that we will have to see how far we can proceed in the oral hearings with. At the moment, on the face of documents, it is not terribly clear.

But if we go to the emergency department, A&E, the first clinician to encounter Conor was Dr Suzie Budd,

and she was responsible for prescribing his initial intravenous fluids and for deciding that he should be admitted for observation and further care.

She's told the inquiry that, as far as she can recall, she did not know about the 2002 guidelines at the time of treating Conor. In fact, she said she doesn't recall even seeing them until she received a request from the inquiry for a witness statement. And she got that in September 2013. So she doesn't actually believe that they saw them until this year. However, she accepts that the guidelines were applicable to the fluid management of a child in Conor's circumstances. So in a nutshell, she accepts they applied to Conor.

Dr Smith, who is a consultant paediatrician, stated that he was aware of the guidelines being displayed in the children's areas of the emergency department. So there's a bit of a difference between them. Depending on the extent to which they were displayed, it may be legitimately possible for somebody to have missed it. But whatever happened about where they were displayed, it may be that the doctors weren't properly inducted into them because it's striking that Dr Budd simply has no knowledge of them at all until they were raised with her.

If we go to the medical admissions unit, Dr Budd

intended Conor to be admitted to a paediatric ward. That's what she wanted to happen. She was of the view that since he had the physiological status of an 8 year-old, he would benefit from admission to a paediatric setting. That didn't happen and he was admitted instead to MAU. That was the main adult medical ward.

So one looks to see who knew about the guidance or the guidelines there. Dr Quinn was the medical senior house officer on the day of Conor's admission, 8 May, and she was responsible for clerking in new patients, and in fact she clerked-in Conor. She says she wasn't aware of the guidelines before she saw Conor. She also says that she never received any formal training in the application of the guidelines and didn't receive any written material in relation to the guidelines.

Then Dr Andrew Murdock. He was the specialist registrar in gastroenterology and in general internal medicine and that he was his position when Conor was treated in MAU. And he was on call that day. Dr Quinn asked him to come to see Conor, and he advised Dr Quinn on the appropriate approach to managing Conor's intravenous fluids. The reason I give you this little bit of background of what they did in relation to Conor is so you see the significance of them knowing about the

guidelines. It would appear that he didn't receive any training to address the specific issue of fluid management and the prevention of hyponatraemia in children. And that's relevant, Mr Chairman, because given that patients were admitted to MAU on the basis of their chronological age, if they were 14 years or upwards, they went there apparently irrespective of their size and weight. So one would have thought that those in MAU should have expected to receive, from time to time, patients who were children, and therefore should have been expected to prescribe and administer fluids for them. And if Dr Murdock hadn't received any training in fluid management or hyponatraemia in children then that is an issue to be taken up in the oral hearings.

We then have Dr Peter Sharpe. He was consultant chemical pathologist. Interestingly, he says about the need for that paediatric training if you're going to be dealing with children. He says:

"When I trained in chemical pathology in Belfast it was considered that fluid management in children was the responsibility of paediatricians. I was never asked, nor would I have given advice on this matter. I consider fluid management in children to be radically different to that of adults and therefore this should

only be administered by those with paediatric expertise and training."

In relation to the guidelines, Dr Murdock has no specific recollection of them having been brought to his attention and he can't recall receiving any training in the application of them, nor can he recall receiving any written information in relation to their use or application. He states that he can't recall seeing the guidelines displayed in any of the locations where he commonly worked, including in MAU. However, he has accepted that they were applicable to Conor and his circumstances, and he has also accepted or, in fact, in fairness to him, admitted that he failed to document the process of managing Conor's intravenous fluid needs adequately. So he has conceded that point and he has apologised for it and he has attributed his admissions in that regard to workload pressures, and furthermore he has indicated that he has taken steps to improve his record keeping since that time.

Then Dr Marian Williams. She at the relevant time was a middle-grade second-term SHO in paediatrics. She was asked by the medical team looking after Conor in MAU to provide advice on his condition and she can't recall now whether the CMO's guidelines were ever brought to her attention when she was working in that unit. She

explains that at some point she was made aware of the guidelines and received training in their use and application, but she simply can't help us as to when that happened.

She also agrees that the guidelines were applicable to Conor because he was under 16 years of age. She, like Dr Murdock, can't recall whether they were displayed in the MAU where Conor was being treated or, for that matter, in any other particular area of the hospital where she worked. She simply can't remember that.

Then finally, the nursing staff. We have Sister Brennan. She was the senior nurse on MAU ward that afternoon. She was the equivalent, as you've heard of these bands, Mr Chairman, before, of a clinical sister, band 6. She had no experience or qualifications in the field of paediatric nursing and she was responsible for reconnecting Conor's IV line. So that was her interaction with him. She has told the inquiry that she accepts that the guidelines applied to Conor, but she admits that they were not applied to his case because the nurses in MAU were unaware of their existence. So they were relevant for Conor, but they weren't applied to him. And she has stated that the guidelines were simply never brought to her attention or

that of other nursing staff in MAU and, in her view, the poster, that A2-sized poster containing the guidelines, was not displayed in MAU. She says that it wasn't until 2009 that she attended training in relation to fluid management for children and young people.

And the same thing applies to her as I've just said for Dr Murdock: she was on a ward where it was quite possible that she would have to treat children, but she had no specific expertise in it and the guidance to ensure that she would have it in relation to fluid management was simply never brought to her attention.

Then Staff Nurse Lavery was on duty in the afternoon of Conor's admission. He was a grade E and he says that, apart from a short placement during his nursing training, he had no experience or qualifications in the field of paediatric nursing. He stated that he received basic fluid management training as a student nurse, but he doesn't recall receiving specific training in relation to fluid management of paediatric patients or on the prevention of hyponatraemia after his registration. And he does say that, rather like Staff Nurse Brennan, in 2009, he attended training in relation to that.

That training would appear to be training in relation to the 2007 guidelines that came out after

Alert No. 22, but obviously of no help to Conor, or them in dealing with Conor. He also agrees that the guidelines were applicable to Conor's case and he is absolutely clear that they were not brought to his attention at any time before Conor's admission. And in his view, the guidelines were not displayed in the MAU.

So Mr Chairman, it all seems to suggest that the guidelines either weren't properly displayed and certainly weren't disseminated to the relevant personnel in MAU and the emergency department. And the reasons for all of that are something to be explored during the oral hearings.

If I go now to audit, which was the other thing that the CMO was concerned about. She wanted not just her guidelines audited, but also the locally developed protocols. Dr Humphrey, who responded to that letter of 7 April 2004, was actually only able to refer to the trust's participation in regional audit as evidence that the trust was monitoring adherence to the guidelines. She doesn't refer to any other form of audit.

You will know, Mr Chairman, from some of the evidence that was given in the Raychel governance section, that that regional audit was an audit that was conducted by Mr McAloon from the Antrim Hospital. That was not the kind of audit that would have gone into and

looked in detail at each trust's practices; that was a regional audit to give a broad view as to the extent of compliance with the CMO's guidelines. But nonetheless that does seem to be the only form of audit that was carried out by or participated in by Craigavon.

I want to contrast that with the Daisy Hill Hospital. Daisy Hill Hospital, who, after 2007, of course, became part of the same trust as Craigavon, they became part of the Southern Trust, not at that time, but therefore a hospital not far from Craigavon. In August 2003, they had an audit of hyponatraemia undertaken and the preliminary results of that audit were shared at an area paediatric audit meeting in January 2005 and the audit is still in progress. It may be that that is more the sort of thing that the CMO had in mind rather than participating in the audit carried out by Jarlath McAloon, which, in any event, wasn't instigated by Craigavon itself.

So then what are the findings? Well, Craigavon was one of the hospitals that was obviously included in that regional audit. And what it highlighted was significant departure from the direction contained in the guidelines emphasising the importance of reassessment of hydration and fluid balance every 12 hours, and the authors of that audit reported that this was only recorded in

a minority of cases being scrutinised and that in four cases urea and electrolytes were not checked during 24 hours of IV therapy, and overall the authors judged that the audit revealed the implementation of the regional guidelines has so far been incomplete.

The difficulty about Craigavon relying on that in their response to the CMO as that being an audit is, you can see from that, Mr Chairman, that the CMO would be wholly unable to be able to identify from an audit of that nature exactly who was complying with what element of the guidelines because it simply is not an audit carried out in that way. That is the information that she might have hoped to get from each individual trust, but she didn't get it from Craigavon.

The inquiry has not been told that the results of that audit or anything else that might have been being done led to any scrutiny of the practices at Craigavon. And the publication of the audit's findings could presumably have provided another opportunity for an assessment of fluid management practice in the hospital. And if that had happened, perhaps one wouldn't have had somebody like Dr Budd saying she didn't actually know about the guidelines until 2013.

Anyway, Mr Chairman, the extent to which anybody at Craigavon took cognisance of what that regional audit

produced and sought to address in its own practices is something that will be considered further during the oral hearings.

So that's the background to what was happening by way of guidelines or not happening by way of them, and the audit being carried out, all leading up to Conor's attendance when, if the CMO had had her way, he would have been going into an environment where those guidelines had been published for nearly a year beforehand and people would have been trained in them, understood them, and the management would have been ensuring that that happened through some form of oversight.

So if one contrasts that with what actually happened. It starts off, of course, with the referral to the Children's Hospital, which is where actually his GP had intended that he went. He didn't go there, and the letter briefly sets out what the GP thought, in the letter of referral, was the problem, and in there is an issue as to why is he deteriorating. So clearly the GP didn't know and wanted some explanation. So that's part of the reason he was being admitted, for observation.

So he then comes to A&E department and he is seen there at 10.51 and, as I've said, he's seen by

Dr Suzie Budd, and she does detect signs of dehydration and she carries out a routine test. At that stage his sodium is 138, which you will know, Mr Chairman, is not hyponatraemic, the range being 135 to 145, generally.

Whilst he's in the emergency department, Conor is found to be experiencing seizure activity. That's clear from the deposition of Dr Kerr, who was a consultant in A&E. He attended Conor at the request of the sister there to examine the placement of a cannula that was causing Conor some irritation. Whilst he was there, he witnessed several jerks in Conor's arm. They were brief and he thought that the jerks might be an atypical seizure activity. He didn't feel there was a need for treatment at the time as a result of them because they were short, and he told the coroner that he didn't make a note of that.

Then we go to the fluid management. The fluids which were ordered by the medical staff in the emergency department and later in MAU, they're all documented on a prescription chart. And Dr Budd has described the fluid requirements to the inquiry and explained that she regarded him as a patient who needed emergency management of shock. That was her assessment. And she makes the first entry on the prescription sheet indicating 220 ml of Hartmann's to be given over half

an hour.

She failed to sign the prescription in the prescriber's column and she's acknowledged that she didn't do that and that she should have done that.

Mrs Mitchell, Conor's mother, expressed the view that when Conor was being cared for in the emergency department, he received 440 ml of rehydration fluid in one hour and she told the coroner that his grandmother thought that she observed his face looking swollen and puffy. And in her evidence to the inquest, Conor's grandmother, Mrs Judy Mitchell, stated that Conor received three syringes of fluid when he was treated in the emergency department, each of 110 ml. That is rather similar to the account given to the coroner by Dr Quinn, who prescribed fluids for Conor when she was later admitted to MAU. She recalled that Conor received three syringes of fluid at A&E. Although in the statement that she provided to the inquiry, she's corrected that and said that two syringes were given.

Then Dr Murdock has suggested that Conor may have received a 400 ml bolus in the emergency department. Dr Budd has addressed the uncertainty about volume of fluid and the question of whether the fluids given had any impact on Conor's appearance, and I'm not proposing to go through all of that, Mr Chairman, because it's set

out fairly fully in the written opening, and that is sourced back to statements and other material. In fact, I'm going to take you to a schedule and I've tried to pull all that together for ease of reference.

If we take another issue, so that was his initial fluid management, and then if we go to the referral, which is also something that happened, obviously, in A&E. Dr Budd started off by referring Conor to the paediatric team for further management. No doubt in her mind about the need to do that. And in fact, in her note she puts "admit paeds", and she's stated in her deposition that she was told or advised that Conor's age meant that he wasn't suitable for the paediatric ward so the admission was carried out, was arranged to MAU. Dr Smith has described the policy that underpinned that decision not to admit Conor.

He said the hospital followed the Northern Ireland guideline at the time for ward admissions in which the upper age limit was the day before the 14th birthday. This was the policy for all general paediatric wards at the time. The only exceptions to this rule were:

"... patients around this age with chronic illnesses who were regularly under the care of a paediatrician and in the process of transitioning to adult care."

Then Dr Budd expands on that and says:

"I considered that, given that he had the physiological status of an 8 year-old, he would benefit from care under the specialist paediatric team. I intended him to be admitted there. I bleeped the admissions SHO on the paediatric ward and spoke to him or her on the telephone. After initial refusal, I requested the SHO to discuss the case further with a senior colleague. I believe that my request for Conor's admission was discussed with a paediatric consultant and, as a result, I was told Conor could not go to the paediatric ward as he was over 13 years old and was not under continuing care of one of the paediatric consultants."

So that was as much as Dr Budd could do to have him seen or treated on a paediatric ward.

Dr Quinn, who clerked Conor into MAU, recalls that she was aware of that particular debate and she explained that because Conor was older than 14, wasn't under the care of a paediatrician as an outpatient, she initially thought that the decision to admit him to an adult ward was reasonable. However, that was before she attended with Conor and before she realised that he had the body habitus of an 8 year-old and weighed 22 kilograms.

Dr Murdock can't remember discussing the question of

the appropriateness of Conor's admission to an adult ward. He recalls that having examined Conor and advised on his fluids, he directed Dr Quinn to contact the paediatric team to discuss the suitability of that fluid prescription. So it's clear that although he doesn't recall the discussion, he seemed to value paediatric input, because that was his direction to Dr Quinn. In fact, it's noted, "D/W [which is 'discussed with'] paeds re rate".

Dr Scott-Jupp, who has been engaged as an expert for the inquiry to look at the compliance with the guidelines, is very firmly of the view that Conor ought to have been admitted and managed in a paediatric setting. And in his preliminary report he explained in detail the kind of benefits which might have accrued had he been treated on a paediatric ward. There would have been greater attention given to the early diagnosis of a urinary tract infection, a different antibiotic requiring less volume of fluid may well have been prescribed, he would have been treated throughout with normal saline, or it's likely that he would have, both for immediate resuscitation and maintenance, and when the cannula extravasated, tissued over, it's likely to have been resited more quickly if he had been on a paediatric ward, and his seizures might have been

noted and addressed sooner by paediatric nursing and medical staff, and there might have been better support for Conor's family. So in his view there were considerable benefits to be derived both for Conor in his treatment and for his family if he had been treated on a paediatric ward. And he's not alone in that view.

Dr Sumner, who was the coroner's expert, regretted in his report to the coroner -- and also during his evidence at the inquest -- that Conor was not nursed in a paediatric environment as he was small for his age, weighing only 22 kilograms. And Dr Hicks, who was the consultant paediatric neurologist, agreed with him in her evidence to the coroner.

It's an important issue, Mr Chairman, since it's emerged that none of the clinicians caring for Conor had any familiarity with the guidelines, whereas the evidence gathered by the inquiry suggests that amongst the paediatric staff particular attention had been given to careful fluid management after the publication of the guidelines, and it's also possible that Conor's fluids would have been managed with those guidelines in mind had he been treated in a paediatric setting, quite apart from the likelihood of him being treated by clinicians and nurses who would be more familiar with his needs as a child.

It's right to say, Mr Chairman, the trust actually has taken issue with Dr Scott-Jupp on the question of the appropriateness of his admission to an adult ward and what the trust says is that, in 2003 and indeed currently, it's not unusual to have 14 years as a cut-off point for choosing between an adult and a children's ward, and the trust refers to the upper limit for referral to the Children's Hospital being 13 years chronological age and not physiological age at that time. That point has been put to Dr Scott-Jupp, who continues in his view that Conor was inappropriately admitted to an adult ward, and he has provided a supplemental report where he deals with that. He says:

"I still find it surprising that more flexibility was not shown. In this particular situation, where it should have been obvious to all concerned that this was a very immature, childlike 15 year-old, I would have expected greater flexibility at Craigavon and I do not believe that age cut-offs should have been so rigidly applied."

Well, Mr Chairman, obviously the general practitioner thought that Conor would be appropriate to be treated on a paediatric ward because he referred him to the Children's Hospital. And furthermore, no matter

what was discussed about the age cut-off point at the Children's Hospital, as a matter of fact Conor was transferred to and admitted in the Children's Hospital. The inquiry understands that that happened once Conor's physical immaturity was explained -- that's his small size. So he was admitted there to PICU, notwithstanding the fact that he was 15 years old.

The trust has now explained to the inquiry that there was a strategy called "changing for children", and is taking steps to engage with the commissioning body to secure funding to increase the age limits on its paediatric wards. That is something that we may look at further in the departmental section, which follows this one and Dr Scott-Jupp has been made aware of that.

Nevertheless, he remains, as he refers to it:

"Unimpressed with the pace of progress in Northern Ireland compared with Great Britain."

He explained that:

"Very few paediatric units in district general hospitals in England in 2003 had age 14 as a cut-off."

And he stated that most applied the age of 16 as a cut-off and a similar approach was adopted in most paediatric intensive care units and specialist children's hospitals.

Then if I turn now to Staff Nurse Bullas. She was

allocated the care of Conor by Sister Brennan, who was the senior nurse on duty, and Staff Nurse Bullas admitted Conor to MAU. He was accommodated there in a side ward and we may consider the implications of that having happened, although the inquiry understands it was done to give him some separation from the adult patients on the MAU ward. It might have had other disadvantages, and we'll in due course hear about that if it did.

She makes a note at 13.30 -- this is Staff Nurse Bullas -- relating to Conor's history and presentation, and records that Conor was observed to be having spasms several times and that he'd been seen by the senior house officer. Conor's mother's view is that he was actually suffering seizures, not spasms, throughout the afternoon of 8 May, and her view was that her concerns about this weren't appropriately addressed.

Subsequently, in the inquest, Dr Hicks and Dr Sumner thought that Conor was experiencing seizures. I have to say, Mr Chairman, this whole issue of seizures and the recognition and appropriate treatment and the significance of that treatment to Conor is something that really lies outside the inquiry's scope for this area. Not surprisingly, though, it's something that has been of considerable concern to Conor's family, but it is not something that we have been able to or can

really, because it's not part of the terms of reference to investigate. And I take it no further than that.

We have set out in the detailed written opening the evidence that the various clinicians and nurses and experts, for that matter, have given about those seizures, so it is there as a record of fact as to what was said, but it was not something that we can actually investigate.

I should just say a word about Staff Nurse Bullas because for some time an effort was made to try and identify where she was to see if she could give us a witness statement. It turned out that she was living overseas and we've only just been able to notify her of these oral hearings. She's been in touch with the inquiry and she's assisting the investigation, Mr Chairman.

Then if we move to Conor's admission to MAU. The senior house officer there, that was Dr Quinn, she made a note of her attendance with Conor and she provided a deposition to the coroner. Her impression was that he had a urinary tract infection and she had blood tests carried out. She also had a plan in relation to the provision of IV fluids. She asked the medical registrar to see Conor, that was Dr Murdock. He has provided a deposition to explain that he carried out an

examination. He's also considered that Conor might have had a viral illness, and he directed Dr Quinn in the prescription of intravenous fluids.

Conor's mother was dissatisfied with his care on MAU and she considered that he was deteriorating there and she made reference to a rash that was developing over his abdomen and to the seizures that he was experiencing there. Conor's condition did in fact deteriorate and Dr Williams was called, at or about 20.30, to assess him. She expressed the view that she didn't see anything when she first arrived to indicate that there was an urgent situation but then, as she was taking a history of his condition, he suffered a stiffening episode, which she diagnosed as a seizure. Then, when she was physically examining him, he suffered a more prolonged seizure, then he stopped breathing and stopped making attempts to breathe. Dr Murdock was present at that time and Dr Smith was also in attendance and so that was witnessed.

Subsequently, a CT scan was ordered. That was done. It was thought at one point that there was a subarachnoid bleed. That scan was sent to the neurosurgical registrars at the Royal. It was reviewed by a consultant neurologist but, in that clinician's view, there was no indication that surgical intervention

could assist, so what happened subsequently is that he was transferred to the intensive care unit of Craigavon. That's where he went at 2200 hours. He was under the care of Dr McCaughey at that time. Dr McAllister was the consultant in charge of ICU and he was also responsible for Conor's care from the morning of 9 May 2003, and he received a handover report from Dr McCaughey, who told him that Conor was comatose following an apparent respiratory arrest and there had been no change in his condition overnight.

So Dr McAllister reviewed that CT scan and he conducted a detailed neurological assessment. There was no neurological response to stimulation, except he believed he could elicit flexion to supraorbital stimulation. In other words, he could get a responsive movement from Conor in that way. Dr Brady was the SHO in ICU and he was working with Dr McAllister. He has recorded that, due to the poor responses to stimulation, it was decided that they would formally test Conor's brainstem responses and the responses to that test, unfortunately, were minimal and the note records that:

"All appearances are that this unfortunate young fellow is brainstem dead."

And after discussions with Conor's family, a decision was made to request a transfer to PICU.

Just prior to that, his Glasgow Coma Scale was found to have increased to about 6 or 7. That increase, Mr Chairman, seems to have been based on the fact that he was, in view of the clinicians, moving his limbs to stimulus and moving his toes on command. Whether he was or not is not really something that is within our purview, but simply that accounts for the difference, and it may also have accounted for the family believing that Conor may have been capable of improvement when subsequently the clinicians at the Children's Hospital felt that that couldn't have been the case.

If we turn now to looking at all of that in relation to the guidelines. Dr Scott-Jupp was specifically asked to do that and he looked at all the records of the medical and nursing records at that time and formed a view as to what you could tell just from those alone. He also looked at the witness statements of the clinicians and nurses to see whether, set in the context of that evidence, he was able to express a view as to the extent of compliance.

I'm not going to go through both his reports in any detail because, Mr Chairman, you have them and they have been available to the interested parties and, of course, will be published, and the detail of what he says has been set out really quite fully in the written opening.

It does actually bear careful consideration, which is the other reason I don't want to overly summarise it, but there are some main points that can be taken out of it. I've tried to do that through some schedules. If we might start first with the schedule of guideline requirements and Conor's treatment. That can be found at 327-008-001.

First of all, you see the caution that has been given right at the top in relation to hyponatraemia:

"Any child on IV fluids or oral rehydration is potentially at risk of hyponatraemia."

So that's a great cautionary statement. What I have tried then to do is, along the first column on the far left-hand side, is put the guideline heading. When I pulled up those guidelines before you could see that there were blocks of text under headings. Down here are those headings, five of them. There's:

"Fluid requirements, choice of fluid, monitoring, [and then finally there's] seeking advice."

So those are the headings for the blocks of text.

Then in the next column there's the actual guideline requirements, what in relation to all of those the guideline required. And then the next column is the treatment, distilling it from the records that we have, that Conor received. Then in the far right-hand side is

a summary of Dr Scott-Jupp's views. The footnotes really are there to elaborate, perhaps, where there is some further explanation it would be helpful, or whether a particular clinician makes a statement or even an expert says something different or confirms what Dr Scott-Jupp has said. So that's the scheme of it. I just would like to go through this because this is actually at the heart of our investigation.

So if we start with the first baseline assessment:

"Before starting IV fluids, weight and U&E must be measured and recorded."

So there's no lack of clarity there. So if we start with the weight. It says:

"Accurately in kilograms (in a bed bound child use best estimate). Plot on a centile chart or refer to normal range."

And that's what you're supposed to do. If we see what happened with Conor, his weight was measured, he was reported as 22 kilograms, but there is no centile chart or reference to normal range. And if you look down at the second footnote in relation to his weight:

"Dr Budd states: Conor was weighed and recorded at approximately 22 kilograms."

It's not clear why, if he was weighed, that weight is approximate. We don't have an explanation why it

should have been approximate or what significance there is to that. It's quite clear that he was very small and one significance of his weight is that clinicians have expressed the view that he should have been treated on a paediatric ward. The other significance of the weight is that it makes a difference as to the calculation of fluids.

Then if we look at Dr Scott-Jupp's views, you see "compliance". He says:

"This is given as approximate weight. It is not clear why that should be if he was weighed."

In other words, he's not clear why it should be an approximate weight, which is the point I've just been making. He says:

"The centile chart would not be useful to Conor because Conor was not a normal child."

The centile chart is to plot where he is in relation to comparable children and, of course, as a 15 year-old, that wouldn't have made much sense to do that, so that wouldn't have been relevant, but maybe an accurate measurement would, but on balance Dr Scott-Jupp's view is that that requirement was complied with.

Then U&E. You have to take the serum sodium into consideration. That's what you have to do. And blood tests were taken on his arrival in A&E, and they got the

blood result of 138 millimoles and there's compliance, according to Dr Scott-Jupp. He says:

"It is unclear if they knew the result when the infusion began."

And that would have been relevant if they did know it because then they could be saying they were taking it into consideration. If they didn't know it, then arguably that wasn't a full compliance because that's what they were supposed to be taking the U&E for, to take it into consideration.

Dr Scott-Jupp also makes the comment about blood gas results. He says they can be unreliable and differ from lab results, which is why you might wait for a lab result but nonetheless he thought that it was justifiable to at least begin the IV fluids on that basis. So in his view, there's compliance there.

If we go over the page, 002, I've highlighted in the pink colour those areas where it would seem from Dr Scott-Jupp's views that there wasn't compliance. So the next thing that the guidelines require is the fluid requirements. It tells you:

"Fluid needs should be assessed by a doctor competent in determining a child's fluid requirement. Accurate calculation is essential and includes maintenance and replacement fluids."

The maintenance fluid -- it tells you there in that column how you are to calculate that, and it tells you that this provides the total 24-hour calculation and you divide by 24 to get to your ml per hour.

Conor was seen by Dr Budd and Dr Kerr and by doctors Quinn and Murdock. And the relevance of that is whether those clinicians can be described as doctors competent in determining a child's fluid requirement. What Dr Scott-Jupp says about that is that none of those seeing him initially were likely to have the necessary skills, particularly in assessing a disabled child. In his view, there was a non-compliance.

Then when one goes down to the guideline formula for Conor, he should have received maintenance fluids at 63 ml an hour and there's no evidence, according to Dr Scott-Jupp, of the use of the formula in the maintenance calculation. And not surprisingly, because they weren't aware of the guidelines.

I don't want to go through all this in detail because it's there, so let me just pull up some other aspects to take you to. If we go over the page, 003.

Then you see the replacement fluid -- sorry, I should just say in terms of the fluids given, there is a real difficulty about working out exactly how much Conor received. And this is referred to and part of the

conclusion of non-compliance with that aspect of the guidelines.

If we look at replacement fluid, it says:

"It always has to be considered and prescribed separately. It must reflect fluid loss in both volume and composition."

And you can see there what Conor received. Dr Scott-Jupp feels there was a non-compliance with this element as well. There is no estimate of fluid output, so you can't reflect the fluid loss. There is no calculation of estimated replacement requirement and there is a confusion between resuscitation and replacement fluids, prescribed as bolus but given over a longer period of time and therefore is effectively replacement. So that is his conclusion.

The other problem, of course, is one that's going to come up in relation to how well they measured his fluid needs in terms of hydration, and we'll come to that shortly.

If we go over the page to 004. The next guideline heading is "choice of fluid". There, once again, it's emphasised about how hyponatraemia can occur and vigilance being needed for all children receiving fluids. And there you have the choice of fluids in relation to maintenance fluids and replacement

fluids.

Dr Scott-Jupp thinks that there was compliance with both of those elements of the guidelines. There's a separate issue about resuscitating a child with clinical signs of shock. The reason that arises at all is the suggestion that it may have been that Dr Budd thought that Conor was approaching that, but in any event, Dr Scott-Jupp says that that wouldn't have applied to Conor.

If we go then over the page again, 005. We deal with monitoring. You have to monitor -- in fact, maybe if I take you quickly over the next page because that's where the actual text of monitoring appears:

"Fluid balance must be assessed at least every 12 hours by an experienced member of clinical staff. If a child still needs prescribed fluids after 12 hours of starting, their requirements should be reassessed by a senior member of medical staff. The rate ..."

And then it goes on to say something which has been the experience of this investigation, Mr Chairman, which is the significance of the rate of fall.

So what do you have to monitor? Well:

"The clinical state, including hydrational status, pain, vomiting, general well-being, should all be documented."

And this is where one deals with what I had mentioned before about hydration. Conor was said to be dehydrated, he had a dry mouth, but the physical signs weren't listed and there wasn't any real assessment of the degree to which he was said to be dehydrated. You can see that footnote 13:

"Dr Budd told the inquest that she thought he was 5 per cent dehydrated."

And the evidence to the inquiry is -- and Mr Chairman, you have heard that in previous cases -- that a level of 5 per cent is mildly dehydrated.

Dr Scott-Jupp is of the view that there was non-compliance with this element of the guidelines. He says:

"Conor's clinical state, particularly his level of dehydration, was not well monitored."

He says in summary:

"To make a full assessment of a child's hydration status, the following should be examined and documented: urine output, urine concentration, vital signs, presence or absence of sunken eyes, dry tongue, loss of skin turgor, consciousness level and responsiveness."

And all of that should have been assessed to reach a view as to what Conor's hydration status was and it

wasn't done.

Then if we go over the page to 007, in relation to output, there was non-compliance with that as well, and he criticises the output chart as being really very poor. In fact, if you look at what the guidelines tells you, you:

"Measure and record all losses -- urine, vomiting, diarrhoea, et cetera -- as accurately as possible."

The output column for Conor was blank. There was no record of urine output, vomiting or bowel movements, although it's quite clear from the material the inquiry has seen that he was producing urine. So Dr Scott-Jupp considers there to be non-compliance.

In terms of the biochemistry, he did have his blood sample for his U&Es, and Dr Scott-Jupp regards that as there having been compliance with that element. But if we go over the page to 008, and look at urine osmolality and sodium and the comparison that's to be made to plasma osmolality and to consulting a senior paediatrician or a chemical pathologist in interpreting results, we see that no urine specimen was taken for osmolality or biochemical analysis for Conor. A urine specimen was taken at 3.30, dipstick test done, and the specimen appears to have been sent to the lab for microbiological analysis, to look for a UTI, but not for

biochemical analysis.

Dr Scott-Jupp considers that there was non-compliance:

"An assessment of urine concentration was not done. Even without plasma and urine osmolality, this is a useful indication of the degree of dehydration and the small amounts of blood and protein are probably insignificant [that's not so much what he felt they should have been focusing on]. The presence of a large amount of ketones in the urine suggested significant dehydration."

But as you will have heard in other cases, Mr Chairman, it may have other causes:

"This test is not what is suggested in the guidelines. More specific biochemical analysis [if we go over the page to 009] would have helped quantify the degree of dehydration and the ongoing requirement for fluid replacement."

Then if we come finally to the last of the five headings in the guideline, which is the seeking of advice. The guidelines say:

"Advice and clinical input should be obtained from a senior member of medical staff, for example ..."

And I think, Mr Chairman, the examples that are given should be read perhaps as indicative:

"For example, a consultant paediatrician, consultant anaesthetist or a consultant chemical pathologist."

Well, we know that Conor was seen by a staff grade doctor, Dr Budd, and the only other senior member of medical staff asked for advice was a consultant physician, Dr McEneaney -- and in fact he turned out to be a cardiologist -- up until his seizure and acute deterioration, and that's apart from a very brief review that I've mentioned in A&E by Dr Kerr. He was seen by consultants after his deterioration, but the whole point of these guidelines is to try and avoid deterioration.

So Dr Scott-Jupp regards there being non-compliance with this element of the guidelines. He says that he recognises that Dr Budd was relatively experienced and he's not entirely sure what the guidance meant there, other than the fact that it has referred to consultant status and the kind of specialism.

But his view is that:

"A more senior doctor, particularly one with experience of young people with cerebral palsy, may have been able to make a better clinical assessment of his state of hydration and may have asked for other action to be taken, including accurate documentation of fluid balance, urine specific gravity or osmolality and further blood biochemistry ..."

So in his view, it is significant the level and the specialism of doctor that you have and although it wasn't entirely clear from the guidelines because it refers to a senior member and then gives those examples nonetheless I suspect Dr Scott-Jupp, who will give evidence -- well, he may be asked to give evidence on it, but one suspects that what one is being taken to is the kind of specialism and seniority that would have been relevant to the child you have before you and the child they had before them was Conor, a child with cerebral palsy.

So that's the compliance with the chronology. I have two other schedules, which I can pull up briefly, which might help. One is to look in greater detail at what he actually got in A&E. We've tried to do one for A&E and one for MAU, and the fact that we can't properly do a schedule for MAU, Mr Chairman, speaks volumes about the quality of the recording of the fluids that he received.

So while we can -- and you'll see the quality of it -- have an attempt at displaying for you what he received by way of Hartmann's solution in A&E, all we can do to help you in MAU is the rate of his maintenance fluids because we simply don't have any accuracy in the documentation to assist you. But let's

look at Hartmann's in A&E first. 327-007-001.

This requires just a little bit of explaining. The two bar columns to the far left, that's what's documented, so the first is the fluid prescription chart, and the second is the intake/output chart. So that is the record.

Why is there a bit of brown on top of the intake/output chart? Well, because there's a way of interpreting the input/output chart, which will either take you to the level indicated by the red bar, which is very nearly 225, or takes you up to the level indicated by the brown part of the bar on top of it. The fact that one can have that difference, or at least spread, is in itself a concern. One would have hopped is might be a little bit more specific than that and not admitted that level of discretion as to what he was actually receiving -- or ambiguity, if I can put it that way.

So if we look then at the columns to the left of that, this is what the clinicians say. You can see not only do they differ from each other very much, they also, with the exception of Dr Kerr and some of Dr Quinn's evidence, differ very much from what is recorded. Dr Budd has her bar chart taken from her deposition and witness statement. That looks pretty much like the fluid prescription chart. Then if you

look at Dr Kerr's deposition, he can't help us any better so he's got just as much span as to the possibilities as to what he received. It's 220 or it's 330. That's the best that he can do.

If one looks at Dr Quinn's deposition, it suggests it's 330. Then in his witness statement, he's back down to somewhere much lower and in accordance with what Dr Budd says. Then if we look at the family's point of view, they too have a spread. They have, in their view, a much higher figure that Conor was receiving. But Mr Chairman, all I can say to you about it is the fact that one can produce a graph like this at all would suggest that the guidelines in terms of record keeping hadn't been met because one would hope that there wouldn't be that extent of ambiguity or discretion or even judgment as to what he actually received.

If we then pull up the next chart, 327-006-001. As I say, this is the best that we can do, which is simply the rate of it; I can't tell you exactly how much. There's two notes to make. If one looks, one sees Dr Quinn's first prescription -- and there's a note which I'll come to in relation to that -- and then Dr Quinn's second prescription and then you see the guidelines. So to the far right, that is the rate that is to be applied by the guidelines as calculated by

Dr Scott-Jupp. And then if you look at what Dr Quinn's first prescription was, that was way in excess of that.

It's true to say, Mr Chairman, that that prescription was scored out and Dr Quinn states that it wasn't commenced. However, Dr Wilkinson's signature appears in the nurse's signature column opposite that first 1 litre of normal saline. So it's an issue as to whether the fact that her signature is there at all indicates that the prescription was at least commenced. Whether it ran through to its end is another matter. That's something that we will have to address.

Then if we look at her second prescription and we can see where that lies in terms of rate. So that's what we can do to help you with the fluids, but in any event you have Dr Scott-Jupp's report where he expresses his concerns about the record keeping. And of course, without accurate record keeping, then it's very difficult to express a view as to whether he actually did get the right amount.

Then finally, Mr Chairman -- and I don't intend to go into any detail at all on this, but just so that we reach the conclusion of Conor's case -- there was an inquest into Conor's death. He had a coroner's post-mortem. That inquest concluded on 9 June 2004. It was Mr Leckey, the coroner for Greater Belfast, who

conducted it and he had had the benefit of having conducted the inquests in all the children, except Claire, at that stage.

I beg your pardon, I think there might not have been the inquest into Lucy at that stage. I beg your pardon.

The result of the inquest was that his death was due to:

"Brainstem failure, cerebral oedema, hypoxia, ischaemia, seizures, infarction, and [at 2] cerebral palsy."

In the narrative of the verdict, Mr Leckey described the fluids that Conor received or the fluid management as acceptable. In the inquest, Dr Hicks had expressed the view that fluid management is very difficult in a case like Conor's and that may lead the brain in someone such as Conor to respond in an abnormal way. In her deposition, Dr Bothwell, who saw Conor at the Children's Hospital, expressed the view that the fluid management at Craigavon was appropriate, notwithstanding the description that she included in the autopsy request form.

A number of witnesses were asked at the inquest to give consideration to the high serum sodium levels experienced by Conor on the day after his collapse, and there appears to have been a consensus that Conor

experienced hypernatraemia as a result of his brainstem malfunction and not as a consequence of the fluids that he was given.

I should say that, after the conclusion of the inquest, Dr Sumner wrote to Dr Jenkins and he copied that to the coroner and to the CMO. In that letter he expressed his concerns about Conor's fluid management, which -- in that letter, although not at the time of the inquest -- he described as sub-optimal, and he then went on to say:

"In the case of Conor, who was primarily admitted for the treatment of dehydration, there was no written formal examination for this, such as skin turgor, capillary refill, although they did note his mouth was dry. There was no calculation of the degree of dehydration, nor the fluid deficit, no calculation of the maintenance fluid for a 22-kilogram child. You will see from the enclosed copy of the fluid charts that the first prescription is not even signed. In my opinion, the initial rate of infusion was unnecessarily high. Small fluid deficits can be made good over a few hours. There was a lapse in infusion for some hours and then 250 ml of saline was ordered to run over four hours and then a further 250 ml over six hours. The basis of these amounts makes no sense to me at all. There was no

note of volumes of urine passed, even though it was collected, and I could not even find a basic TPR chart."

And he went on to say that:

"It [was his] impression that the basics of fluid management are neither well understood nor properly carried out."

Unfortunately, as you know, Mr Chairman, Dr Sumner is not available to us. We're not able to see how it was that he would express a view like that in correspondence after the inquest, but there it is: that is the view that he expressed.

Then in terms of the developments following Conor's death, the guidelines that were applicable at the time that he was being cared for stayed in place until 2007. On 27 April 2007, the CMO, the chief pharmaceutical officer and the chief nursing officer, the three of them, all issued a circular, which addressed the patient safety Alert No. 22, which you have heard of, Mr Chairman. That alert was addressed to reducing the risk of hyponatraemia when administering infusions to children. And then subsequently, having been issued with that by the CMO and her colleagues, the department issued the paediatric parenteral fluid therapy guidelines in September 2007, and they specifically had, on their face, of being applicable to children of

1 month and up to 16 years.

Mr Chairman, the written opening sets out the efforts that Craigavon made to respond to Alert No. 22 and the September 2007 guidelines, and I'm not going to deal with that now because it's there. But what I can say, just in summary, as to what happened thereafter was the RQIA undertook an independent review into Alert No. 22 and they did that in 2008. Then there was an action plan presented to the trust board in relation to the trust's position on the RQIA independent review, and that happened in September 2009. I should say that the RQIA found deficiencies in compliance and required those to be addressed, and that's part of what the trusts were doing.

Then the paediatric team developed guidelines for fluid management in paediatric patients, the trust established an implementation working group under the chairmanship of its medical director. There was a high-level overview undertaken to identify actions required. A paediatric intravenous infusion policy was developed and implemented. There's a training programme formulated for nursing staff and then the BMJ's e-learning model, which you'll hear about later on in relation to the department section, that was made mandatory for all medical staff, guidance on admissions

of persons aged 14 to 18 was issued and compliance audit was instituted.

Mr Chairman, the whole question of what happened after the 2002 guidelines, Conor's inquest and the 2007 guidelines, is a matter that is being investigated in some detail and is part of the section on the department, which follows, albeit taken very much from the department's perspective. But we hope there to provide you with a detailed run of what was happening with guidelines in relation to hyponatraemia, which will bring you up-to-date and, we hope, form the basis of the investigation you want to carry out or the questioning that you want to ask as to what happens now. But we hope that will form the platform for that.

Mr Chairman, I don't have anything else that I want to say by way of opening now.

Timetabling discussion

THE CHAIRMAN: Thank you very much, Ms Anyadike-Danes.

Mr Quinn, on behalf of the family, there has been a pattern over previous segments that the representatives of the family would make an opening submission, typically shorter than the inquiry's, but I think some particular points have been raised and we want to hold that over.

Just to confirm, in case there's any

misunderstanding, there will be an opening on behalf of the family, but --

MR QUINN: Yes, there will, sir.

THE CHAIRMAN: -- just not today.

Part of the delay arises from the fact that Nurse Bullas, who Ms Anyadike-Danes referred to, made contact with the inquiry on Monday. It appears from her end that there was an earlier unsuccessful attempt to contact the inquiry and it's because of her comparatively late engagement, or engagement to our knowledge, that we've asked your opening to be held back, but I think there's also some issues that have been raised on behalf of the trust.

Those issues are raised in the context that these openings are typically circulated in advance between those who write them and those who have a particular interest. And in previous segments of the inquiry this has led to some issues being raised and amendments being made.

MR QUINN: Yes.

THE CHAIRMAN: So we will facilitate the same system at this stage, but as long as the Mitchell family understand that you will be opening the segment, it's just a matter of when. Is there anything else that you need to raise today?

MR QUINN: Nothing that we need to raise.

THE CHAIRMAN: Mr McAlinden, I think the issue about the opening on behalf of the family can be dealt with over the next 24 hours, perhaps 48 hours, so far as the trust and so far as Nurse Bullas are concerned.

MR McALINDEN: Yes.

THE CHAIRMAN: Is there anything else at your end?

MR McALINDEN: No, not at this stage, Mr Chairman.

THE CHAIRMAN: I have a concern that we received some fresh information in a letter, which was dated Friday and received at the inquiry late on Monday morning, in which we have had identified to us the directors of A&E and of the medical admissions unit -- that's a Dr Lee and a Dr Sterling -- and we have also got some fresh information about Dr Bell.

MR McALINDEN: Yes.

THE CHAIRMAN: I want to consider overnight how we take those forward. In the normal run of affairs, as you know, we would have asked those doctors for witness statements. In fact, we had asked Dr Bell for a witness statement and we have some information from her. So the question is: do we need to issue her with an additional witness statement or can we take what she has said through DLS in the letter of 11 October as, in effect, an addition to her witness statement?

MR McALINDEN: I think that would be the best course of action to take.

THE CHAIRMAN: And I think it has been suggested to me this morning that Dr Hogan, who later became the paediatric clinical director and who was going to give evidence on Friday, she may be replaced on Friday by Dr Bell.

MR McALINDEN: My understanding is that Dr Bell will be giving evidence on Friday and I'm consulting with her on Thursday afternoon to facilitate that evidence to be given on Friday.

THE CHAIRMAN: And that's instead of Dr Hogan, who later became the paediatric lead but was not the paediatric lead at that time?

MR McALINDEN: That's correct.

THE CHAIRMAN: So far as Dr Lee and Dr Sterling are concerned, the information which they've been able to give -- and let me bring this up on screen so that people who haven't seen it already can see it. 329-032a-001 and 002, please. You'll see in the penultimate paragraph on the page on the left:

"We have had identified to us clinical directors in post: Dr Lee in medical assessment unit and Mr Sterling in A&E."

And there's then a few lines about what Dr Lee remembers, which is described as:

"No immediate recollection of anything about the 2002 guidelines."

And Mr Sterling is along the same lines; is that right?

MR McALINDEN: Yes.

THE CHAIRMAN: Again, if these people had been identified at an earlier stage, we would have asked for witness statements. In terms of time, but also in terms of what they say, I'm not sure about the value of witness statements as opposed to taking what is set out in this letter as effectively a witness statement.

MR McALINDEN: Mr Chairman, I don't think that the presentation at this stage of witness statement requests to any of these individuals would result in any further information being obtained which would be of value to the inquiry.

THE CHAIRMAN: Can I ask you: do either or both of them still work in the Southern Trust?

MR McALINDEN: I will take instructions in relation to that, but I understand that they do.

THE CHAIRMAN: Because in that event the quickest way to bring this to a head might be, if they're required to give evidence, to simply ask them to do that. I think it would almost inevitably be fairly short evidence.

MR McALINDEN: Yes. I understand that Dr Lee is still an

employee of the trust and is working in Craigavon. I'm just taking instructions in relation to the whereabouts of Mr Sterling.

THE CHAIRMAN: Okay. And then there's one other issue; it doesn't arise from this letter.

MR McALINDEN: And Mr Sterling has retired.

THE CHAIRMAN: Is he available?

MR McALINDEN: I understand he is, yes.

THE CHAIRMAN: Thank you very much. In the opening, as it has been now adapted, Miss Foy had become the acting nursing director and she had provided a witness statement. She's now provided a supplementary statement, I think, dated today or yesterday, in which she in fact says that what one might previously have understood to be her responsibility was instead the responsibility of Miss O'Rourke.

MR McALINDEN: Yes.

THE CHAIRMAN: Miss O'Rourke doesn't suggest that in her witness statement.

MR McALINDEN: Yes.

THE CHAIRMAN: So it may be we'll have to obtain Miss O'Rourke's response to that.

Just for those of you who aren't immediately familiar with this correspondence, the issue is who was the person at the nursing end who was responsible for

the implementation of the 2002 departmental guidance, and I think it is now being suggested, really for the first time by Miss Foy, that it was Miss O'Rourke rather than herself; is that right?

MR McALINDEN: Yes.

THE CHAIRMAN: We'll see how we follow that up with Miss O'Rourke. One other issue is about Nurse Wilkinson. I think there was an ambiguity in her evidence, which we may need to develop, and we'll try to resolve over the next 24 hours how that is done. That sounds like a lot has to be done, but in effect I think, compared to earlier segments of the hearing, all of this information may well be comparatively short.

MR McALINDEN: I think they are pretty net issues, which can be quickly addressed, Mr Chairman.

THE CHAIRMAN: At the moment, the schedule is to sit tomorrow and Friday and then sit from Tuesday to Friday. I think in order to try to sort out these fresh issues, we might have to keep open the option of sitting on Monday or else try and fit in the evidence in some other way, but sitting on Monday might be the obvious way to do it. We'll develop that as quickly as we can. I don't think the issues that we're looking at particularly affect the evidence that we're going to hear tomorrow and Friday, which is more coming from the

top down, isn't it?

MR McALINDEN: Yes.

THE CHAIRMAN: And particularly if Dr Bell can convenience us by replacing Dr Hogan, then that resolves that issue.

Beyond that, ladies and gentlemen, is there anything further that needs to be raised today? Does everybody have a fairly clear understanding of where we're going? It sounds a bit itsy-bitsy, and that's unfortunate, but as a result of the limited issues that we're examining through Conor's treatment, I think it will be possible to sort these out over the next few days to keep this segment of the inquiry on track. And then that will lead us to -- sorry.

MS BOYD: On behalf of Nurse Bullas, we were just instructed this morning. At the minute I don't have any papers, I have just secured counsel, although she is in England. So the earliest she's going to be able to start reading the papers is tomorrow. We then have to take our client's instructions. There is a significant time difference between us and our client. She is not familiar with the inquiry and she's very concerned about it, so I think the earliest we would be able to respond to the opening would be Monday.

THE CHAIRMAN: Okay, well, we'll do everything we can to accommodate that. That's why I said to Mr Quinn, just

to make it clear, there will be an opening on behalf of the family, but I will try to keep open precisely when that opening is given. And since the family's draft opening does refer in fairly significant terms to Nurse Bullas, it's unfortunate the way this has developed. Nurse Bullas did make contact with the inquiry on Monday and yesterday, and she indicated that she had made contact approximately a week or 10 days ago, but unfortunately that contact didn't actually get through to us, but her subsequent one did, so I have no reason to think that she's not honestly saying that she had tried to make contact before or thought she had made contact before, it just didn't materialise. So we'll try to work round that and see how that can be fitted in. Thank you very much for coming on board.

That, ladies and gentlemen, brings us to an end for today. We will then pick up by starting the evidence tomorrow morning at 10 o'clock. Thank you very much.

(2.45 pm)

(The hearing adjourned until 10.00 am the following day)

I N D E X