OPENING: RAYCHEL FERGUSON

(Lucy Crawford aftermath)

THE ORAL HEARINGS IN THE INQUIRY INTO HYPONATRAEMIA-RELATED DEATHS

Chairman: O'Hara J

Banbridge Court House, 28th May 2013

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I. Introduction

The Opening

1. Mr. Chairman, as you are aware, the clinical issues in Raychel Ferguson's case have already been addressed in the course of the Oral Hearings. This section of the Oral Hearings concerns the issues raised by the case of Lucy Crawford, so that you might determine to what extent there was a failure to learn appropriate lessons from Lucy's death, and whether any such failure had important consequences for how Raychel was subsequently treated. There will then be future hearings concerning the management and governance issues in Raychel Ferguson's case, which will be the subject of a separate opening in due course.

2. Given the volume of documentation that is available for consideration, this Opening will:

   (i) Seek to summarise for you the clinical background to Lucy's case and the steps which were taken by the various actors[1] after Lucy's death with a view to establishing its cause;

   (ii) Set out the principal issues in Lucy's case in the context of the evidence gathered to date and the revised Terms of Reference and List of Issues;

   (iii) Identify the main areas which the Legal Team consider requires further investigation through questioning in these Oral Hearings.

Lucy Crawford

3. Lucy Crawford was born on 5th November 1998. She was the youngest of her parents' three children. She died on 14th April 2000 at the Royal Belfast Hospital for Sick Children ("RBHSC"), having been transferred there after treatment in the Erne Hospital, Enniskillen.

4. Lucy therefore died some 14 months before Raychel was admitted into the Altnagelvin Area Hospital ("*Altnagelvin Hospital*").

5. The impetus for this Inquiry was a UTV Live 'Insight' documentary 'When Hospitals Kill' shown on 21st October 2004. The documentary primarily focused on Lucy's death, although it also referred to the deaths of Adam and Raychel in which hyponatraemia had similarly played a part. At that time, no connection had been made with the deaths of Claire and Conor.

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[1] Throughout this Opening, the positions of those involved is given as it was at the relevant time, unless it is relevant to also identify their position at any other time

6. The programme makers identified what they considered to have been significant shortcomings of personnel at the Erne Hospital. In effect, the programme alleged a 'cover-up' and it criticised the hospital, the Trust and the Chief Medical Officer.

II. The Inquiry's Revised Terms of Reference

7. The Revised Terms of Reference require particular consideration in the case of Lucy. Lucy's name was included in the original Terms of Reference for the Inquiry[2] as published on 1st November 2004 by Angela Smith[3] MP, who was then Minister with responsibility for the Department of Health, Social Services and Public Safety.

8. However, on 26th May 2008, Mr. and Mrs Crawford asked, for personal and family reasons, that Lucy's death be removed from the work of the Inquiry.

9. On 30th May 2008, you, Mr. Chairman, made a public announcement[4] that the circumstances surrounding the death of Lucy Crawford would no longer be considered by the Inquiry and thus an investigation would not be carried out by the Inquiry into the care and treatment she received. As you are aware, and as I commented in the General Opening, the then Minister of Health Michael McGimpsey MLA, revised the original Terms of Reference on 17th November 2008 to exclude Lucy Crawford's name entirely.[5]

10. The interpretation of those Revised Terms of Reference was left to you Mr. Chairman on the basis, as stated by the then Minister in his letter dated 4th December 2009, that he was:

> *"… mindful of the independence of the Inquiry and the fact that your investigation may extend to officials, past and present, of my Department"*[6]

11. You, Mr. Chairman, then had to consider, in the light of the expressed wishes of Lucy's parents, and representations from the interested parties, how the Revised Terms of Reference should be interpreted in relation to Lucy's case.

12. Whilst the care and treatment which Lucy Crawford received does not, of itself, form part of the Inquiry's work and her name is not now formally included within the Inquiry's Terms of Reference, this does not mean that issues raised by her death are no longer of interest to the Inquiry. On the contrary, the initial failure to recognise that hyponatraemia caused Lucy's death, and to disseminate this information to the wider medical community in Northern Ireland, is viewed by the Inquiry as being of potential significance

2 Ref: 021-010-024
3 Now Baroness Smith of Basildon
4 Ref: 303-008-178
5 Ref: 303-033-460
6 Ref: 303-035-462

for the case of Raychel Ferguson, who died some 14 months later. Any failure to learn lessons from what happened to Lucy is in fact an essential part of the Inquiry's investigation into what happened to Raychel, and thus forms the primary reason for the Inquiry's decision to examine Lucy's case.

13. In light of the request by Lucy's parents to have Lucy's death removed from the Terms of Reference, it is acknowledged that the Inquiry must pursue the remaining limited issues with a degree of sensitivity. Whilst Lucy's name was removed, the Revised Terms of Reference left open the possibility that the aftermath of her death might still be investigated in relation to its implications for the investigation into Raychel's case.

14. On 10th June 2009, you issued a paper to the Interested Parties which contained the following:

"7. While the original terms of reference in 2004 permitted the Chairman to extend the work to include additional deaths and issues, they had to be amended by the Minister if Lucy's death was excluded. The amended terms of reference were issued by the Minister in November 2008. The extent of the amendment was to remove any reference to Lucy but otherwise to leave the terms unaltered. This leaves the amended terms open to two possible and quite different interpretations:

> *(a). By deleting any reference to Lucy the Inquiry is to proceed on the basis that Lucy's death and its surrounding circumstances and aftermath are not to be enquired into in any way. This would mean, for example and in particular, that the initial failure to identify the correct cause of death and the alleged cover-up on the internal review by Sperrin Lakeland Trust would be excluded because to investigate them would be to continue to look at Lucy's death.*
>
> *(b). Alternatively, the terms still permit and indeed require an investigation into the events which followed Lucy's death such as the failure to identify the correct cause of death and the alleged Sperrin Lakeland cover-up because they contributed, arguably to the death of Raychel in Altnagelvin. This reflects the contention that had the circumstances of Lucy's death been identified correctly and had lessons been learned from the way in which fluids were administered to her, defective fluid management would not have occurred so soon afterwards (only 14 months later) in Altnagelvin, a hospital within the same Western Health and Social Services Board area."*[7]

15. After hearing from the parties, you, Mr. Chairman, made a ruling regarding the approach that would be taken by the Inquiry concerning the death of Lucy:

"My decision is that I shall take the option set out at paragraph 7(b) of the June 2009 paper. This means that there will be an investigation into the events which followed the death of Lucy Crawford such as the failure to identify the correct cause of death

[7] Ref: 303-036-463

and the alleged Sperrin Lakeland cover-up because they contributed, arguably, to the death of Raychel Ferguson in Altnagelvin."[8]

16. That ruling followed a public announcement on 30th May 2008[9] that the Inquiry would investigate the case of Claire Roberts, who had died at the RBHSC on 23rd October 1996, to the same extent as the cases of Adam Strain and Raychel Ferguson.

17. Accordingly, the relevant portion of the Revised Terms of Reference may now be said to be construed as requiring:

"an Inquiry into the events surrounding and following the deaths of Adam Strain, Claire Roberts and Raychel Ferguson, with particular reference to:

2. The actions of the statutory authorities, other organisations and responsible individuals concerned in the procedures, investigations and events which followed the deaths of Adam Strain, Claire Roberts and Raychel Ferguson [including an investigation into the events which followed Lucy's death such as the failure to identify the correct cause of death and the alleged Sperrin Lakeland cover up]"

18. The reference in the Revised Terms of Reference to investigating the *"procedures, investigations and events which followed [Lucy's] death"*, therefore raises important management and governance issues, and poses significant questions about the ability of the relevant bodies to learn lessons and to act upon them.

19. This Inquiry will therefore examine certain of the clinical, hospital management and Trust governance issues arising from Lucy's death. The Inquiry is particularly concerned to examine why the contribution played by hyponatraemia in causing her death was not recognised and acted upon at the time.

III. Evidence Received

20. As I explained in earlier openings, the Inquiry's search and request for relevant documents started in or about the beginning of 2005 and is ongoing. Such requests are guided by the Inquiry's Advisors and its Experts as well as arising out of documents received and responses to the Inquiry's requests for witness statements.

21. For convenience, the sources of the documents and other material received, which includes reports of experts engaged by the Coroner and the PSNI, are set out in Appendix I to this Opening.

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8 Ref: 303-037-466

9 Ref: 303-008-176

22. In the section below dealing with the involvement of the Western Health and Social Services Board, the apparent omission to provide all relevant documentation to the Inquiry will be discussed.

23. As with previous cases, I am conscious that you, Mr. Chairman, will be making findings and recommendations on the basis of all of the evidence received and not just what is heard during the Oral Hearings. You, of course, have a complete set of the documentary materials which have been gathered by the Inquiry as part of its investigation in Lucy's case. Therefore, I do not propose to recite or summarise the contents of each of those materials. Rather, I will try to indicate the key elements of the evidence that has been received in Lucy's case.

Expert Reports

24. The Inquiry has, with the guidance of its Advisors, engaged Experts to address a number of specific issues:

25. The following Experts have been retained:

    (i) Dr. Roderick MacFaul[10] (Consultant Paediatrician, retired) who has provided a report, which examines those clinical and governance aspects of Lucy's case which are relevant to the revised terms of reference.[11]

    (ii) Professor Gabriel Scally[12] (Director of WHO Collaborating Centre of Healthy Urban Environments) who has provided a report which examines the nature of the governance relationship between the Trusts and the Boards and the DHSSPS.[13]

    (iii) Professor Sebastian Lucas[14] (Consultant Histopathologist, Department of Histopathology, St. Thomas' Hospital, London) who has provided a report on the Autopsy of Lucy Crawford.[15]

26. The Legal Team, together with the Inquiry's Advisors and its Experts, have also reviewed the reports obtained by the family of Lucy Crawford and by the Sperrin Lakeland Trust for the purposes of litigation, and by the Coroner for the purposes of the Inquest:

    (i) Dr. Edward Sumner[16] (Consultant Paediatric Anaesthetist at Great Ormond Street Children's Hospital) who provided a report to the

10 See List of Persons Ref: 325-002-001
11 Ref: 250-003-001
12 See List of Persons Ref: 325-002-001
13 Ref: 251-002-001
14 See List of Persons Ref: 325-002-001
15 Ref: 252-003-001
16 See List of Persons Ref: 325-002-001

Coroner in April 2003 (not 2002 as is erroneously stated on the cover of the report).[17]

(ii) Dr. Dewi Evans[18] (Consultant Paediatrician, Singleton Hospital in Swansea), engaged for Lucy's parents. He pointed out that if Lucy had been managed according to the basic standards of paediatric practice in a district general hospital then it was, in his opinion, extremely unlikely that she would have developed cerebral oedema, i.e.: *"Treating Lucy with the standard therapy for children with gastroenteritis would have prevented the cerebral oedema and prevented the neurological collapse"*.[19]

(iii) Dr. John Jenkins[20] (Senior Lecturer in Child Health and Consultant Paediatrician at Antrim Hospital), engaged by the Directorate of Legal Services for Sperrin Lakeland Trust. He pointed to the absence of: "*clear documentation regarding the fluid type and rate prescribed, together with clear records as to the exact volumes of each fluid which were in fact received by the child throughout the time period concerned"* and the *"confusion between the staff involved"*.[21]

Background Papers

27. I have referred to the commissioning of Background Papers by Experts in previous Clinical Openings. The background papers which may be of particular relevance to the issues in Lucy's case are:

(i) Dr. Jean Keeling, Paediatric Pathologist, on the system of procedures for the dissemination of information gained by post-mortem examination following unexpected death of children in hospital[22]

(ii) Dr. Bridget Dolan, Barrister at Law and Assistant Deputy Coroner, on the systems of procedures and practices in the United Kingdom for reporting and disseminating information on the outcomes or lessons to be learned from Coroner's Inquests on deaths in hospital (involving Hospitals, Trusts, Area Boards, Department of Health and Chief Medical Officer).[23]

28. All of those reports have been made available to you, Mr. Chairman, and to the Interested Parties. The reports of the Inquiry's Experts will be published on the Inquiry's website in due course in accordance with the Inquiry Protocols and procedures. The other expert reports (e.g. those of Dr. Sumner) are already available on the Inquiry's website.

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17 Ref: 013-036-136
18 See List of Persons Ref: 325-002-001
19 Ref: 013-010-036
20 See List of Persons Ref: 325-002-001
21 Ref: 013-011-039
22 Ref: 308-020-295
23 Ref: 303-052-715

IV. Schedules Compiled by the Inquiry

29. The Inquiry has received a vast amount of information which is relevant to Lucy's case. In order to assist you and the Interested Parties, the Legal Team has compiled a number of schedules and charts as ancillary documents to permit this information to be more readily accessed and understood.

List of Persons Involved in Lucy's Case

30. The Legal Team has compiled a list of all those persons involved in Lucy's case from all of the information received by the Inquiry.[24] It explains their position at the relevant time and briefly summarises their role in her case.

31. This document is supplemented by two schedules which help to explain the terminology in use at the time when Lucy was being cared for in hospital, in respect of the grading of medical and nursing staff: 'Nomenclature & Grading of Doctors 1948 to 2012'[25] and 'Nomenclature & Grading of Nurses 1989 to 2012'.[26] You are already familiar with these schedules from your consideration of previous cases. Accordingly, unless it is of particular relevance to the issues, I shall not deal with the grade or training of any particular clinician.

32. The List of Persons also identifies those who have made statements and for whom they were provided.

33. As with previous cases, there will be a number of witnesses who will not be required to give evidence at the Oral Hearings and arrangements will be made to have their witness statement tendered in lieu of oral evidence. In due course, Mr. Chairman, the Legal Team will compile a Schedule of all those whose evidence is being tendered to you in that way. It will then be a matter for you to decide whether you, nonetheless, wish any particular witness to be called to give oral evidence.

34. Unfortunately, there are witnesses in respect of whom it has not been possible for the Legal Team to obtain an Inquiry witness statement. For example, Dr. Denis O'Hara[27], who performed the consent post- mortem and provided a post-mortem report, is deceased. Accordingly, particular attention has been paid to the reports and correspondence issued by Dr. O'Hara at the time he was dealing with Lucy's case.

35. Dr. Amer Ullah Malik[28] is presently employed at the Services Hospital, Lahore, Pakistan where he holds the post of Assistant Professor and Consultant Neonatology. He has co-operated with the Inquiry by providing a

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24 See List of Persons Ref: 325-002-001
25 Ref: 303-003-048
26 Ref: 303-004-051
27 See List of Persons Ref: 325-002-001
28 See List of Persons Ref: 325-002-001

statement dated 29th April 2013.[29] However, he has not replied to a second statement request which was directed to him on 8th May. Attempts to contact him to confirm his willingness to give evidence to the Oral Hearings of this Inquiry have so far proved unsuccessful.

Chronologies of Events – Clinical & Governance

36. The Legal Team has prepared two Chronologies of Events:

    (i) The first details the clinical events that occurred from Lucy's admission (to both the Erne Hospital and the RBHSC).[30]

    (ii) The second details the response of the statutory bodies in regard to management, governance and lessons learned.[31]

37. These documents are compiled almost exclusively from sources where the events appear to be appropriate and uncontroversial. However, if any particular timing or event is disputed, then it is expected that witnesses giving oral evidence will make their position clear to the Inquiry, either directly or through their legal representatives.

38. The structure of the Chronologies is straightforward and follows the pattern already established for the previous cases. The date and time are on the left-hand side, the event is in the middle and the reference for the source of the information is on the right-hand side. The footnotes contain any comments or clarifications.

39. In regard to the 'governance' chronology, the Inquiry has pulled together the various governance chronologies already produced for the previous cases into a 'compendium' governance chronology, highlighting all the relevant actions of the various hospital trusts and statutory bodies from the death of Adam Strain right up to the Inquest into Lucy's death. This will be further added to before, and during, the Raychel governance, Conor Mitchell and Departmental hearings.

Other Documents

40. The Legal Team has also updated its compendium Glossary, by building on the previous cases.[32]

41. As shall be seen, there is an issue regarding what information was communicated to the RBHSC by the Erne Hospital upon Lucy's transfer on 13th April 2000. For ease of reference, the Legal Team has produced a schedule

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29 Ref: WS-285/1
30 Ref: 325-003-001
31 Ref: 325-004-001
32 Ref: 325-005-001

showing which notes were faxed through to the RBHSC and which were not, and the pertinent information contained within each document.[33]

V. Defining Governance

42. The 'governance' issues arising out of the Inquiry's revised terms of reference are being considered at three 'levels': (i) hospital management and clinical governance; (ii) corporate or trust level; and (iii) government or departmental level within the Health and Social Care Services (HSC).

43. In general, the Inquiry team has interpreted 'clinical governance' as the system through which the HSC organisations are accountable for continuously monitoring and improving the quality of their care and services and safeguarding high standards of care and services. This system largely operates at the clinical level, with reporting lines to Directorate and Trust managers.

44. The Inquiry team has adopted the term 'clinical governance' as an 'umbrella' term which encompasses a range of activities in which clinicians should become involved in order to maintain and improve the quality of the care they provide to patients and to ensure full accountability of the systems to patients.

45. On the 'management' side, the Inquiry understands that the term embraces the leadership, procedures and systems that the organisation requires in order to maintain high quality services to patients and for which they are accountable.

46. So far as 'corporate' or 'Trust level' governance is concerned, the Inquiry considers that it is particularly important to examine the governance structures and processes which exist between the clinical directorates or divisions and a Trust board, and between the Trust board and other health bodies, such as the health and social services boards or the Department of Health.

VI. List of Issues in Relation to Lucy

47. The issues raised by the Revised Terms of Reference are reflected in the Inquiry's List of Issues.[34] The List of Issues is a working document that is updated and revised as appropriate. The current List of Issues was published by the Inquiry on 14th February 2012.

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33 Ref: 325-006-001

34 Ref: 303-038-478

48. The principal issue in Lucy's case is to investigate the steps that were taken and which ought to have been taken following Lucy's death on 14th April 2000 in order to ascertain the cause of her death.

49. In relation to the RBHSC this entails examining:

(i) The steps taken by the RBHSC to investigate the circumstances leading to Lucy's death and to ascertain its causes, and the outcome of those steps;

(ii) How the cause of Lucy's death was established and agreed, including how and when the clinicians responsible for Lucy's treatment discussed and agreed on a cause of death;

(iii) The extent and quality of the information conveyed to the Coroner's Office about the circumstances of Lucy's death and whether it complied with any governing guidelines, procedures and practices;

(iv) The reasons why it was decided that a Coroner's post –mortem was not required for Lucy and why a hospital post-mortem was carried out;

(v) The significance of the reference to hyponatraemia within the clinical diagnosis section of the autopsy request form for Lucy and the:

- Consideration, if any, that was given to hyponatraemia when examining the cause of death;
- Conclusions reached following any such consideration;

(vi) The actions that the RBHSC took and should have taken to disseminate the findings of the hospital post –mortem that was carried out including whether the findings of the post-mortem had been brought to the attention of the Coroner, and:

- Why Lucy's death was certified as being cerebral oedema due to or in consequence of dehydration and gastroenteritis;
- What steps the coroner would have taken if the findings of the hospital post-mortem had been brought to his attention;
- Whether the steps taken to investigate the circumstances of Lucy's death, to ascertain its causes and to disseminate information about the death, were adequate in all the circumstances.

50. In relation to the Erne Hospital and Sperrin Lakeland Trust, the inquiry into the steps which were taken and which ought to have been taken to ascertain the cause of Lucy's death entails investigation of:

(i) The steps taken by the Erne Hospital and the Sperrin Lakeland Trust to establish an investigation into the circumstances leading to Lucy's death and to ascertain its causes , and whether its establishment and conduct complied with any applicable guidelines, protocols or practices;

(ii) The adequacy of the investigation and its findings;

(iii) Steps taken to disseminate the outcome of the investigation to any other hospital and in particular Altnagelvin Hospital, Craigavon Hospital and other Trusts, Boards and the DHSSPS;

(iv) Whether and when the Erne Hospital or Sperrin Lakeland Trust suspected fluid management or hyponatraemia as being relevant to the cause of Lucy's death, including consideration of how the investigations conducted by the Royal College of Paediatrics and Child Health were dealt with by the Hospital and the Trust;

(v) Whether the Erne Hospital or the Sperrin Lakeland Trust should have referred Lucy's death to the Coroner or to any other body;

(vi) Whether Lucy's parents were involved in the investigation and, if not, whether they were provided with information about the outcome of the investigation.

51. It has also been necessary as part of the Inquiry's consideration of the Sperrin Lakeland Trust's actions, following the completion of its investigation of Lucy's death, to examine its relationship with the Western Health and Social Services Board, whether it was obliged to report the death to the Western Health and Social Services Board, and having reported to that Board, the obligations, if any, which rested with the Board to take further action.

52. Those are issues which will be further examined at the Oral Hearings, together with the question of whether there was also an obligation for the Trust to notify the DHSSPS of the death.

53. The Inquiry is not now investigating the adequacy of the care and treatment which Lucy received. However, in order to investigate the failure to identify the correct cause of death in Lucy's case, it will be necessary to consider the records of Lucy's care and treatment, in order to establish what information was available to those who considered the cause of her collapse and death, and what conclusions could be drawn from that information. Of course, this material has also been the subject of detailed analysis and comment by Dr. MacFaul.

54. As with previous cases, the issues to be addressed during the Oral Hearings will essentially concern as yet unresolved differences between:

(i) Documents and the evidence of a witness

(ii) Evidence of witnesses, whether between the accounts given by a witness or between the accounts of different witnesses

(iii) Evidence of a witness and the views of an Expert

(iv) Views of the Experts on a particular issue

VII. Lucy's Admission to Erne Hospital on 12th April 2000

GP Referral

55. Lucy was referred for admission to the Erne Hospital on the evening of Wednesday 12th April 2000 by an on call General Practitioner, Dr. Aisling Kirby[35]. Dr. Kirby told the inquest into Lucy's death that the typed notes of her consultation with Lucy and her family showed that it began at 19:25 and finished at 19:46 on 12th April.[36] However, the Erne Hospital notes, and Mrs. Crawford in her deposition to the Coroner, both state that Lucy was already admitted to the Erne Hospital by that stage (from 19:30 on).[37] On examination, she had a fever – her temperature was 38°C, but the mucosa in Lucy's mouth were moist and examination of her ears, throat, heart, lungs and abdomen was entirely normal.[38]

56. Dr. Kirby queried whether Lucy had a urinary tract infection and stated that she "*needs fluids*".[39] She therefore arranged Lucy's admission to the Erne Hospital. Her referral note[40] recorded that Lucy was drowsy and lethargic; she was "floppy", and not drinking.

Admission to the Erne Hospital

57. Lucy was admitted to the Erne Hospital in Enniskillen on 12th April 2000 with a recent history of drowsiness and vomiting. The admission is timed at 19:30.[41] The clinical records associated with the period when Lucy was treated in the Erne Hospital can be found in **File 27.**

58. The Erne Hospital was located in Enniskillen (population 13,500[42]), some 80 miles drive from Belfast, and served a largely rural population. It was part of the Sperrin Lakeland Trust ("the Trust") and it was within the Western

35 See List of Persons Ref: 325-002-001
36 Ref: 013-020-069
37 Ref: 027-009-020; Ref: 027-010-022; Ref: 027-017-058; Ref: 027-023-073
38 Ref: 027-004-014
39 Ref: 013-032-118 to 013-032-119
40 Ref: 027-004-014
41 Ref: 027-009-020; Ref: 027-010-022; Ref: 027-017-058; Ref: 027-023-073
42 NI Census data for April 2001

Health and Social Services Board area. It has now been replaced by the South West Acute Hospital.

59. Similarly, the Altnagelvin Health and Social Services Trust (and therefore the Altnagelvin Hospital), where Raychel was treated just over a year later, is located within the Western Board area.

Attendance by Dr. Malik

60. Lucy was admitted under the care of Dr. Jarlath O'Donohoe[43], Consultant Paediatrician, but was seen initially by Dr. Amer Ullah Malik[44], SHO in Paediatrics.

61. Dr. Malik recorded a history from Lucy's parents that Lucy had not been feeding as usual for the past 5 days: she had a history of fever and vomiting for the previous 36 hours; and, for the previous 12 hours, she had been drowsy.[45] On examination, Dr. Malik recorded that she was "*conscious and pink*", her capillary refill was greater than two seconds, her temperature was 38 degrees, heart rate 140 beats per minute and respirations 40 per minute and she weighed 9.14kg[46]. He noted that her chest was clear and diagnosed "*viral illness*".[47] He recorded a plan to admit Lucy and encourage feeding. He arranged blood tests, a check of her urine for leucocytes and nitrates and planned to administer IV fluids when a cannula had been inserted.

62. The daily fluid balance chart records, at 20:00, that Lucy passed 20ml of urine and notes *"ketones ++++ protein ++++"*.[48] Dr. Malik's medical note records the results of urinalysis as *"protein ++ ketones ++ no leucocytes"*[49], whilst the nursing note of Staff Nurse Sally McManus[50] records: *"Urine specimen obtained at 21:00, ketones ++++ protein ++++ on testing"*.[51] It is not clear whether the results recorded by Dr. Malik and Staff Nurse McManus, and those on the fluid balance chart, derive from separate tests, or from different urine samples of urine.

63. Confusingly, the laboratory result dated 14th April 2000, of a sample taken at 21:00 on 12th April 2000, shows protein as 'nil' and ketones as '+++'.[52] It is therefore unclear if Lucy had proteinuria or not, or the significance thereof. The leucocyte test was negative, which Dr. Dewi Evans[53], Consultant Paediatrician, Singleton Hospital in Swansea, who was engaged for Lucy's

43 See List of Persons Ref: 325-002-001
44 See List of Persons Ref: 325-002-001
45 Ref: 027-010-020
46 Ref: 027-010-021
47 Ref: 027-010-022
48 Ref: 027-019-062
49 Ref: 027-010-022
50 See List of Persons Ref: 325-002-001
51 Ref: 027-017-058
52 Ref: 027-011-028
53 See List of Persons Ref: 325-002-001

parents for Lucy's Inquest[54] (and the Inquiry's paediatric expert Dr. Scott-Jupp in Raychel's case[55]) says is indicative of no urinary infection.

64. Neither Dr. Malik nor Dr. O'Donohoe did recorded any assessment of the degree to which Lucy was dehydrated. Dr. Roderick MacFaul[56], Consultant Paediatrician and the Inquiry's governance expert, explains the degrees of dehydration in this way:

"In practice clinicians grade dehydration as mild (2.5% of body weight), moderate (5% to 7.5%), or severe (9-10%)-in the latter case there is a risk or presence of shock."[57]

65. Commenting on Lucy's condition on admission, Dr. MacFaul notes elements that point towards her not being significantly dehydrated[58]:

(i) Her mucous membranes were moist

(ii) She was passing urine

(iii) Her pulse rate of 140, although at the high end of the normal range, was within the normal range (up to 160 per minute)

(iv) Likewise, her respiratory rate (40) was only slightly elevated (normal range up to 40 per minute)

66. Dr. MacFaul therefore considers that Lucy had "*at most moderate dehydration and that she was not in established shock*".[59]

67. However, Dr. MacFaul does note that Lucy's blood urea was elevated and her capillary return was prolonged at more than 2 seconds (the normal range being less than 2 seconds), which suggests a degree of poor perfusion. Therefore, he states that "*without prompt treatment, Lucy could have progressed to established shock.*"[60]

68. The Coroner's expert, Dr. Edward Sumner[61], Consultant Paediatric Anaesthetist, considered that Lucy was, at the time of her admission to hospital, *"on balance…mildly dehydrated-perhaps somewhat less than 5% and involving a fluid deficit of approximately 350ml"*.[62] Dr. John Jenkins[63], Senior Lecturer in Child Health and Consultant Paediatrician, who also gave

54 Ref: 013-010-028
55 Ref: 222-004-002
56 See List of Persons Ref: 325-002-001
57 Ref: 250-003-021
58 Ref: 250-003-031
59 Ref: 250-003-031
60 Ref: 250-003-032
61 See List of Persons Ref: 325-002-001
62 Ref: 013-036-139
63 See List of Persons Ref: 325-002-001

evidence at the inquest, was of the view that Lucy had *"a mild degree of dehydration"*[64] of "5-7.5%".[65]

69. Lucy's initial blood results were timed at 20.50 on 12th April 2000[66]. These showed an elevated urea of 9.9mmol/L (a sign of dehydration[67] and/or established shock[68]), and a normal sodium of 137 sodium mmol/L.

VIII. Fluid Management Pre-Seizure

70. There are several issues in relation to Lucy's fluid management that will be considered during the course of the Oral Hearings:

    (i) What should have been understood by the clinicians at the Erne Hospital (including those who reviewed her case after her death) and, subsequently, the clinicians at RBHSC on reading the Erne Hospital notes as to:

    - Lucy's fluid needs
    - What fluid management should have been employed as a result

    (ii) What should the Erne Hospital and RBHSC have understood about what went wrong – so as to lead to an investigation by them and the Coroner.

    (iii) The ability of the treating clinicians (Erne) and the 'reviewing clinicians' (RBHSC) to recognise whether she was dehydrated and, if so, to what degree is therefore important as the first step in the Inquiry's investigation.

71. In addition, for the purposes of the clinicians assessing whether her fluid regime at the Erne Hospital was appropriate, the important issues concern:

    (i) Whether the fluid (both rate and type) she received was appropriate

    (ii) How much fluid it was intended she should receive

    (iii) Which fluid it was intended she should receive

64 Ref: 013-032-118
65 Ref: 013-032-123
66 Ref: 027-012-031
67 Ref: 250-003-021
68 Ref: 250-003-022

Attendance by Dr. O'Donohoe

72. Lucy was able to take some sips of oral fluids and received 50ml of juice and 100ml of dioralyte between 21:00 and 22:00.[69] She is also noted as having passed a small quantity of urine at 20:00.

73. Following Lucy's admission, Dr. Malik was unable to insert a cannula to enable IV fluids to be administered to her.[70] Dr. O'Donohoe was therefore called in to assist with the management of Lucy.[71] Dr. Malik times this at 21:00,[72] but Dr. O'Donohoe times it at 21:30.[73] He managed to insert a cannula into Lucy's left arm and she was started on IV fluids at approximately 22:30 to 23:00. According to a contemporaneous nursing note, the purpose of the fluid regime was "*to encourage urinary output*".[74]

74. However, the fluid balance chart records Lucy's nappy as being "*damp*"[75] at 23:00. It is therefore unclear why fluids continued as they were given that the intention of the IV fluids was noted as being "*to encourage urinary output*".

Maintenance vs. Replacement vs. Resuscitation

75. The differences between IV fluids provided for the purpose of 'maintenance' and those provided for the purpose of 'replacement' have been discussed in previous cases before the Inquiry, but it is an important distinction to note.

76. Maintenance fluids are those fluids used to cover ongoing losses (from urine, sweat etc) and insensible losses for a patient on IV fluids who is not dehydrated and who is not undergoing abnormal losses of body fluid. It is calculated by reference to weight or body surface area.

77. Replacement fluids are those fluids used to replace abnormal losses e.g. through vomiting or diarrhoea - both those that have already been lost, and those that are continuing to be lost. The replacement rate is chosen by the treating doctor and may be rapid, minutes to an hour or two, or slow, a day or more, depending on the nature of the patient's problem.

78. Lucy's case introduces a third category – that of 'resuscitation' fluids. These are fluids used for management of circulatory failure, either in established shock, or when trying to prevent an evolving shock.[76] This is commonly required when a patient is dehydrated.

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69 Ref: 027-019-062
70 Ref: 027-017-058; Ref: 013-009-023
71 Ref: 013-009-023; Ref: 013-018-066
72 Ref: 013-009-023
73 Ref: 115-051-001
74 Ref: 027-017-058
75 Ref: 027-019-062
76 Ref: 250-003-030

Fluids Received

79. From the fluid balance chart, it appears that Lucy received 100ml/hr of Solution No.18 from the beginning of her I.V. fluid administration until it was switched to normal saline by Dr. Malik following her seizure.

80. This document has been described by Dr. MacFaul as "*confusing*".[77] Staff Nurse Thecla Jones[78] acknowledged in a letter to Mr. Eugene Fee[79], Director of Acute Hospital Services, Sperrin Lakeland Trust, within a week of Lucy's death, that the running total as indicated to the right of each box has not been tallied correctly.[80] In her PSNI statement[81], she states that the entry at 01:00 should have been "*100/300*" (representing the hourly and cumulative totals respectively), and likewise "*100/400*" at 02:00.

81. However, it appears from the fluid balance chart that Lucy received at least 400ml of Solution No.18 intravenously from 22:30 or 23:00 until her seizure at around 03:00. In Dr. MacFaul's opinion, the total could have been as much as 450ml or 500ml, depending on the interpretation of when IV fluids were started.[82]

Rate of Fluids

82. The IV fluid prescription[83] for Solution No.18 was signed by Dr. Malik but it did not indicate the rate at which the fluid was to be administered. Dr. Malik has stated in his witness statement to the Inquiry that he "*was not the one who initiated the fluid regimen*"[84] because he did not indicate a rate as he had not been able to cannulate, and he had contacted Dr. O'Donohoe to do so.[85]

83. Staff Nurse Brid Swift[86], in her statement dated 8th May 2000 to Mr. Eugene Fee that Dr. O'Donohoe advised her to administer Solution No.18 at 100ml/hr until Lucy had produced urine.[87] In addition, Staff Nurse McManus noted in the nursing notes: "*IV fluids of No.18 solution commenced at 22:30 at 100mls/hr to encourage urinary output.*"[88]

84. However, it is Dr. O'Donohoe's recollection, from his note recorded in the case notes on 14th April 2000[89], that he had directed that Lucy was to receive a bolus of 100ml over one hour followed by Solution No.18 at 30ml/hr. He has

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77 Ref: 250-003-034
78 See List of Persons Ref: 325-002-001
79 See List of Persons Ref: 325-002-001
80 Ref: 047-015-087
81 Ref: 115-014-002
82 Ref: 250-003-034
83 Ref: 027-019-063
84 Ref: WS-285/1, p.9
85 Ref: WS-285/1, p.9
86 See List of Persons Ref: 325-002-001
87 Ref: 043-073-151 – a typed version is available at 013-013-046
88 Ref: 027-017-058
89 Ref: 027-010-024

stated that this bolus (at approximately 10ml/kg) was "*to cover the possibility that the cannula might not last very long and the succeeding rate was very slow*" since he had seen Lucy taking oral fluids.

85. Even if Lucy's dehydration was moderate (e.g. 7.5%), Dr. MacFaul is of the opinion that a maximum of 67ml per hour of Solution No.18 should have been administered[90], and that the amount received was "*grossly excessive*".[91]

Choice of Fluids

86. Dr. O'Donohoe, in a statement dated 24th August 2003 provided to Dr. James Kelly[92] of the Erne Hospital, stated the following:

"I saw Dr. Malik writing as I was describing the fluid regime i.e. 100mls as a bolus over the first hour and then 30 mls per hour. The 100 mls was approximately 10 ml/Kg and to cover the possibility that the cannula might not last very long and the succeeding rate was relatively slow since I had seen her taking oral fluid well and presumed the rate of fluid need[ed] was relatively small."

87. Dr. O'Donohoe repeated the above verbatim in his statement received by the Coroner, save that at the end of the paragraph above he added the sentence "*The intravenous fluid used was saline 0.18% saline. (sic)*"[93]

88. Dr. O'Donohoe has since said, in his evidence to the GMC, that he directed that a 100ml bolus of <u>normal saline</u> be administered, followed by Solution No.18 at 30ml/hr. He could not recall if he said 'normal saline' to Staff Nurse Swift in the presence of Dr. Malik, but that, in any event, he would see the two as synonymous i.e. that 'bolus' in this context means 'a bolus of normal saline'.

89. More recently, in his first witness statement to the Inquiry, Dr. O'Donohoe has given a quite different account. When asked to explain why he decided to reduce the rate of infusion of normal saline to 30ml/hr after Lucy's collapse, he explained: "*I had requested at the time when I placed a cannula into Lucy that Lucy be given normal saline at the rate of 30ml/hour be given.*"[94]

90. As has just been mentioned, Staff Nurse Swift is clear that she was directed by Dr. O'Donohoe to administer 100ml/hr of Solution No.18, and the nursing notes only mention the use of Solution No.18 at this stage.

91. Dr. Peter Crean[95], Consultant Anaesthetist, who cared for Lucy once she was transferred to the RBHSC, stated at the Inquest into her death that "*it was wrong to use No.18 for both replacement and maintenance purposes.*"[96]

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90 Ref: 250-003-030
91 Ref: 250-003-037
92 See List of Persons Ref: 325-002-001
93 Ref: 013-018-066
94 Ref: WS-278/1, p.12
95 See List of Persons Ref: 325-002-001

92. Dr. MacFaul reports that Solution No.18 was widely in use for fluid maintenance in 2000.[97] In addition, at that time it was an option even for fluid replacement providing that blood sodium was normal (which Lucy's was), although the ideal treatment at that time (including for Lucy) for fluid replacement was either normal (0.9%) or half-normal (0.45%) saline.

93. However, in terms of a bolus (or temporarily higher than normal hourly values) administered for resuscitation in a dehydrated patient, Dr. MacFaul is clear that normal saline is the fluid indicated, and that Solution No.18 should not be used.[98]

94. He therefore considers that if Lucy was to receive any bolus of fluid, by the standards of the day, she should have only received normal saline and the remainder as half-normal (0.45%) saline over the first hours. [99]

95. Dr. Evans, in his report to the Coroner, considered the decision to use Solution No.18 from the outset was "*wrong*"[100], as was the rate of fluid.

96. Dr. Sumner agrees, considering that Solution No.18 was "*a totally inappropriate fluid to make up deficits from vomiting and diarrhoea*".[101]

GMC Fitness to Practise Panel

97. The GMC heard from Dr. O'Donohoe and Staff Nurse Swift at the Fitness to Practise Panel regarding Dr. O'Donohoe's fluid management in Lucy's case. The Panel commenced on 24th November 2008, and reached a determination on 30th October 2009.[102]

98. The Panel found that Dr. O'Donohoe had failed to calculate an acceptable plan of fluid replacement and had failed to ensure that nursing staff knew of an adequate fluid replacement plan and a system of monitoring its progress. However, the Panel did not go so far as to determine that Dr. O'Donohoe had instructed Staff Nurse Swift to administer Solution No.18 at a rate of 100ml/hr until Lucy passed urine, as Staff Nurse Swift had testified.

99. Additionally, the Panel concluded that Dr. O'Donohoe's note, inserted into the case notes on 14th April 2000 following his conversation with Dr. Crean the previous day, was both "*inaccurate and misleading*" due to its failure to specify the fluid to be administered as a bolus. The Panel did not find that the record was dishonest. The Panel determined that the fluid regime Dr. O'Donohoe "*claimed to have ordered*" was not communicated properly by Dr.

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96 Ref: 013-021-074
97 Ref: 250-003-029
98 Ref: 250-003-030
99 Ref: 250-003-037
100 Ref: 013-010-034
101 Ref: 013-036-140
102 Ref: Relevant extracts from the GMC hearings will be available in File 163

O'Donohoe to those administering the fluid and, in any event, was inappropriate.

100. Based on these findings, the Panel concluded that Dr. O'Donohoe's acts or omissions were not in Lucy's best interests and below the standard to be expected of a reasonably competent consultant paediatrician. The Panel concluded that Dr. O'Donohoe was guilty of serious professional misconduct and he received a reprimand.

IX. Seizure at 02:55

101. By 23:30, Lucy's temperature had reduced to 37.4°C and she was asleep.[103] However, she is recorded as having suffered a "*large vomit*" at 00:15[104] (this is also marked as vomit "++" on the fluid balance chart[105] at midnight).

102. At 02:30 on 13th April, Lucy passed a large runny pale green bowel movement. She was moved to a side ward, because of fears of infection. This is the first recorded episode of Lucy having diarrhoea.

103. At approximately 02:55 on 13th April 2000, Lucy was found to be suffering what was recognised as a seizure, becoming rigid in her mother's arms.[106] Her mother called the nurses for help. Enrolled Nurse Teresa McCaffrey[107] and Staff Nurse McManus attended. Staff Nurse McManus recorded in the nursing notes that Lucy was rigid, but had no loss of colour, no cyanosis, and that her pulse and respirations were satisfactory[108]. The nurses bleeped Dr. Malik and began administering oxygen at 5 litres per minute.

Attendance by Dr. Malik

104. Dr. Malik attended shortly afterwards. He recorded that Lucy's respirations were 36 per minute and her heart rate was 140 per minute. He directed 2.5mg of rectal diazepam, though Lucy suffered another episode of diarrhoea immediately afterwards.

105. At around 03:20 on 13th April, Lucy experienced respiratory arrest. Dr. Malik inserted an airway and began "bagging", that is providing artificial respiration by means of a bag and mask.[109]

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103 Ref: 027-023-073
104 Ref: 027-017-058
105 Ref: 027-019-062
106 Ref: 027-017-058
107 See List of Persons Ref: 325-002-001
108 Ref: 027-017-057 to 058
109 Ref: 027-017-057 & 027-010-024

Administration of Normal Saline

106. Staff Nurse Jones recalls in her PSNI statement that she asked Dr. Malik if he wanted to change the fluid because normal saline was used for resuscitation and her sugar levels were raised.[110] She states that Dr. Malik agreed to change the fluid, and Staff Nurse Jones changed it to normal saline. Dr. O'Donohoe has explained that it was his understanding that fluids were changed to normal saline because Lucy had passed a lot of diarrhoea.[111]

107. Staff Nurse Jones states that Dr. Malik directed "*the rate to run freely*".[112] This is repeated in the nursing records, which state that normal saline was allowed to "*run freely into IV line*".[113]

108. Dr. Malik's entry in the case notes indicates that 500ml of normal saline was "*given over 60 minutes*".[114] Staff Nurse Jones states that Lucy received the complete bag of 500ml within an hour or an hour and a half.[115] Dr. O'Donohoe stated in his deposition for the Inquest hearing that the bag of normal saline had been started before Dr. O'Donohoe called him and that "*the 500ml was virtually complete before I arrived."*[116]

109. Nevertheless, it is not completely clear from the notes how much normal saline Lucy actually received, or how quickly she received it. The fluid balance chart from the children's ward records that 500ml of normal saline was given at 03:00.[117] The precise time at which the infusion of normal saline was commenced is not expressly stated in Lucy's chart.

110. The fluid balance chart from the Intensive Care Unit in the Erne Hospital also records "*500ml from [Children's Ward] NaCl*"[118] at 03:00 (note that this chart was not faxed to the RBHSC with Lucy's notes – see further below). Additionally, it states that she received 250ml by 04:00, with a further 30ml by 05:00 and 30ml by 06:00. On the face of the fluid balance charts, it appears possible that Lucy received 810ml of normal saline between 03:00 and 06:00.

111. Staff Nurse Jones agrees in her PSNI statement that, on the basis of the fluid charts, Lucy received 810ml of normal saline.[119] In contrast to the evidence of Dr. Malik and Staff Nurse Jones, Staff Nurse MacNeill states that the 250ml was administered prior to Lucy's arrival in ICU, and that she gave her 30ml

110 Ref: 115-014-002
111 Ref: WS-278/1, p.12
112 Ref: 115-014-002
113 Ref: 027-017-057
114 Ref: 027-010-024
115 Ref: 115-014-002
116 Ref: 013-018-066
117 Ref: 027-019-062
118 Ref: 027-025-076
119 Ref: 115-014-002

between roughly 04:50 and 05:50 and a further 30ml during the journey to Belfast.[120]

112. Dr. MacFaul considers that, even if 250-500ml of normal saline was administered over one hour, this was a "grossly excessive" volume and there was no evidence from the clinical records that this bolus was required.[121]

Attendance by Dr. O'Donohoe

113. According to Dr. Malik's entry in the casenotes[122], Dr. O'Donohoe was called at 03.15, and arrived at 03:20, though it is not clear when these entries were made. Confusingly, he is also noted as having prescribed Diazepam at 03:00,[123] even though this seems to have been administered by Dr. Malik prior to Dr. O'Donohoe being contacted.

114. On his arrival, he continued bagging and anaesthetic support was requested. While waiting for the anaesthetist to arrive, Dr. O'Donohoe, according to the nursing notes, made two unsuccessful attempts to intubate Lucy.[124] Dr. O'Donohoe, in a retrospective entry in the casenotes, recorded that, at approximately 03:30, Lucy's capillary refill was now less than 2 seconds, her pulse was easily felt and her pupils were dilated and unresponsive.[125]

115. Lucy's glucose levels were tested by way of 'Dextrostix' and were shown to have risen from 4.5mmol/l at the time of her earlier electrolyte testing to 12. Dr. O'Donohoe's note reads "*Dextrostix [is approximately] 12 [therefore] normal saline.*"[126]

116. Dr. O'Donohoe states that he was "*surprised*"[127] to find that the normal saline was "*running freely*" and that, on his arrival, the 500ml given was "*virtually complete*". Assuming that Dr. O'Donohoe arrived at or before 03:30, this is contrary to the evidence of Dr. Malik[128] and Staff Nurse Jones[129] who state that the fluid was infused over an hour or, in Staff Nurse Jones' case, potentially longer.

117. In a letter to Dr. Kelly, Erne Hospital dated 24th August 2003, Dr. O'Donohoe referred to the 500 ml infusion of normal saline as follows:

120 Ref: 115-016-002
121 Ref: 250-003-037
122 Ref: 027-010-022; Ref: 027-010-024
123 Ref: 027-018-060
124 Ref: 027-017-057
125 Ref: 027-010-023
126 Ref: 027-010-023
127 Ref: 115-053-002
128 Ref: 027-010-024
129 Ref: 115-014-002

"*Since this is approximately 50ml/kg a much larger volume than I would use I believe this had been started following the first episode of diarrhoea i.e. before the convulsion*."[130]

Again, this is contrary to the evidence of others, in particular Dr. Malik and Staff Nurse Jones.

118. Dr. O'Donohoe, in a statement provided to the PSNI dated 26th April 2005, further states that he reduced the flow to 30ml (presumably per hour),[131] though it is not clear as to when this happened.[132] The ward fluid balance chart does not show any reduction in rate[133], the PICU fluid balance chart shows a reduction to 30ml/hr at some point after 04:00 (presumably in PICU given the chart used)[134] and in her PSNI evidence, Staff Nurse MacNeill says that the rate was only reduced once Lucy was admitted to PICU at approximately 04:35.[135] Staff Nurse MacNeill adds that she thinks it was, in fact, Dr. Auterson who prescribed the fluid.

119. There is no evidence to suggest that Dr. O'Donohoe asked why Lucy was on normal saline which was "running in freely", or that he checked the fluid chart at this stage and was made aware that Solution No.18 had been administered at a rate of 100ml/hr prior to the change in fluid. This is an issue that will be considered during the Oral Hearings as recognisance of these facts at this stage may have affected both the Erne Hospital and the RBHSC's knowledge of the excess fluids that Lucy had received.

Repeat Blood Tests

120. Dr. O'Donohoe ordered a repeat urea and electrolyte measurement to be carried out.[136] The precise time at which the blood sample was taken is not clearly set out in Lucy's chart. He has told the Inquiry in his witness statement that he performed the repeat test because the profuse diarrhoea reported by Dr. Malik "*might have produced abnormalities in the electrolytes.*"[137]

121. The precise time at which the repeat blood samples were taken is not clear, though it appears to have occurred after IV fluids were changed to normal saline.[138] Mr. Matthew Hackett[139], Chief Bio-Medical Scientist and Head of Haematology, later confirmed to the PSNI that Lucy's second blood sample

130 Ref: 047-053-148
131 Ref: 115-051-002
132 Ref: 115-051-002
133 Ref: 027-019-062
134 Ref: 027-025-076
135 Ref: 115-016-002
136 Ref: 027-017-057
137 Ref: WS-278/2, p.4
138 Ref: 027-017-057; 116-026-016 & 017
139 See List of Persons Ref: 325-002-001

was received in the hospital laboratory at 03:57 and Mr. Hackett checked and authorised the result at 04:26.[140]

122. The results of the repeat blood test showed that her serum sodium had fallen from 137mmol/L on admission to 127mmol/L after her seizure.[141] The significance of these results is that they show that Lucy had become hyponatraemic between the time the first blood sample was taken and the time of the repeat blood sample.

123. Indeed, if Dr. O'Donohoe's recollection is correct, that the 500ml of normal saline "*was virtually complete*" upon his arrival, and, if he was the clinician who had ordered the bloods for repeat urea and electrolyte measurement, then it is clear that a considerable volume of saline had been infused.

124. Dr. O'Donohoe has stated that he considered the results of the repeat electrolytes to have been significant but that they "*did not help to explain the cause of Lucy's deterioration.*"[142]

125. Dr. O'Donohoe recalls telling Dr. Hanrahan at a study day on 3rd December 2004 tha*t "the serum sodium might have been lower than 127 before the normal saline had been given"* and that he (Dr. O'Donohoe) put this forward as an explanation *"for why the cerebral oedema was so severe."*[143]

126. Dr. McKaigue has said that he and Dr. Crean also later discussed that it was possible that the effects of the infusion of normal saline may have raised her serum sodium, thereby masking the true degree of the hyponatraemia suffered by Lucy.[144]

Attendance by Dr. Auterson

127. Dr. Thomas Auterson[145], Consultant Anaesthetist, states he was contacted by the hospital switchboard at around 03:40 on 13th April and arrived in the children's ward at shortly after 03:50.[146]

128. He was told that Lucy had been admitted the previous evening with vomiting, had had some offensive diarrhoea and was presumed to be suffering from gastroenteritis.[147] He was told that she had suffered "*some type of fit*"[148] and was noted to have gone rigid.

140 Ref: 115-043-001 to 115-043-005
141 Ref: 027-012-032
142 Ref: WS-278/2, p.4
143 Ref: WS-278/1, p.10
144 Ref: WS-302/2, p.3
145 See List of Persons Ref: 325-002-001
146 Ref: 013-007-020
147 Ref: 013-007-020
148 Ref: 013-007-020

129. He took over "bagging" from Dr. O'Donohoe and noticed that Lucy's pupils were fixed and dilated and not responding to light. He managed to intubate Lucy, that is to insert a tube into her windpipe to facilitate a clear airway and ventilate the lungs. He saw that her pupils were fixed, dilated and unresponsive.

130. Dr. Auterson has told the Inquiry that he quickly became concerned that the fluid administered to Lucy had been too much and the wrong type, yet his concerns were not expressly drawn to the attention of the review of Lucy's case which was conducted by the Sperrin Lakeland Trust.[149]

131. This apparent omission is discussed in greater detail later in this Opening. Moreover, on his account, the conclusions which Dr. Auterson reached do not appear to have been shared and discussed with Dr. O'Donohoe.

Transfer to Intensive Care Unit in Erne Hospital

132. Dr. O'Donohoe contacted Dr. James McKaigue[150], the on call Consultant Paediatric Anaesthetist in the RBHSC to arrange for Lucy's transfer to the Paediatric Intensive Care Unit (PICU) there. Dr. O'Donohoe has recorded in the casenotes[151]: "*D/W Dr. McKeague* (sic) *RVH –for transfer-?cause of respiratory arrest ?post convulsion.*"[152]

133. Dr. McKaigue confirmed in his statement to the PSNI[153] that he received a call from Dr. O'Donohoe and he recalled "*a general discussion about treatment and the type of fluid she received, a dextrose based solution*" though he had "*no recollection of the volumes that he told me.*" He agreed to Lucy being transferred to the RBHSC. He has also stated in his statement to the Inquiry that his priority during the call was to ensure all measures be taken to treat a potential brain injury & protect the brain from further insult.[154] He also believes he would have advised the administration of Mannitol if this had not already been given, because this was a critically ill child who had developed seizures, may have had fixed dilated pupils and required intubation.[155] He states that he would not have considered it important to establish Lucy's fluid regime.[156]

134. Lucy was transferred in the meantime to the Intensive Care Unit (ICU) at the Erne Hospital where steps were taken to stabilise her for transfer to the RBHSC. Nursing notes from ICU made by Staff Nurse Siobhan MacNeill[157] begin at 04:35, and record that Lucy w*as "Transferred from Children's ward following respiratory arrest post epileptic type fit."*

149 Ref:013-025-094 & WS-274/1, p.4 & 5
150 See List of Persons Ref: 325-002-001
151 Ref: 027-010-023
152 Ref: 027-010-023
153 Ref: 115-027-001
154 Ref: WS-302/1, p.7 Q.6(g)
155 Ref: WS-302/1, p.7
156 Ref: WS-302/1, p.7 Q.6(g)
157 See List of Persons Ref: 325-002-001

135. The same note records that, while in ICU, Lucy received 30ml/hr of normal saline by IV infusion. Dr. O'Donohoe prescribed 25ml of 20% Mannitol intravenously over half an hour[158] and 20g of Claforan, an IV antibiotic.[159]

136. In a statement which she provided to the PSNI, Staff Nurse MacNeill provided a detailed commentary on the fluids received by Lucy after her collapse:

> *"I have checked the fluid intake chart for ICU… and I can say from that record that when Lucy arrived in ICU a 500 ml saline drip was attached to her and 250 mls of this had already been infused, she had already received this amount upon arrival to my ward. I removed this solution and the remainder of it was discarded. I then gave Lucy 25mls of Manitol via a syringe pump. At the same time she got 30 mls of saline 0.9, between roughly 4.50am and 5.50am, via a Buritol infuser. I then gave her another 30 mls of 0.9 saline on the journey to Belfast. Dr. O'Donohoe prescribed the Manitol and I think it was Dr. Auterson who prescribed the fluids."*[160]

137. As has been seen in previous cases, Mannitol is used as a diuretic to increase water excretion, and can be used to reduce intracranial pressure by reducing the volume of extracellular fluid. It is unclear what made the clinicians consider administering Mannitol prior to the CT scan, or if they considered that she may have received excess fluid. The implications of this administration will be considered during the Oral Hearings.

138. At 05:00, a chest x-ray detected no abnormalities.[161] This is noteworthy as the autopsy report by Dr. O'Hara later stated that:

> *"The autopsy also revealed an extensive bronchopneumonia. This was well developed and well established and certainly gives the impression of having been present for some 24 hours at least … there is no doubt that this pneumonic lesion within the lungs has been important as the ultimate cause of death"*[162]

139. The accuracy or otherwise of this report will be discussed later in this Opening.

X. Transfer to the RBHSC

Transfer by Ambulance

140. Lucy was transferred from the Erne Hospital by ambulance at about 06:30[163] on 13th April 2000. As Dr. Auterson could not get cover[164], she was

158 Ref: 027-025-076a, 027-010-023 & 027-025-076
159 Ref: 027-010-023
160 Ref: 115-016-002
161 Ref: 027-010-023
162 Ref: 142-001-002
163 Ref: 115-015-002
164 Ref: 013-025-092

accompanied by Dr. O'Donohoe and Staff Nurse MacNeill and bagged by hand throughout the 90-minute journey. For those unfamiliar with the geography, the 80-mile distance between the two hospitals can perhaps best be appreciated from the map 'Health and Personal Social Services Northern Ireland'.[165]

Inter-hospital Transfer Policy

141. 'Inter-hospital Transfer' has been described as *"the inter-hospital movement of sick patients from a hospital within the province to another hospital within the province".*[166]

142. Dr. Robert Taylor[167] discussed his work with the Working Party on Neonatal and Paediatric Transport during the Oral Hearings in the case of Adam Strain, during which he explained the notes that would normally be sent upon a patient's transfer:

"Very often, the medical notes would remain in a hospital -- let's say Altnagelvin Hospital retains their own medical notes, but they would send a transfer letter or transfer form with a summary of their medical condition and their blood tests and their other relevant investigations. It wouldn't necessarily mean that all the patient notes would be transferred with the patient."[168]

143. In answer to a question from the Chairman, Dr. Taylor explained that as at 1995, even though the full notes and records might not always be sent, some at least would be and, at a minimum, a summary of what exactly was happening with the child. Further:

"I think when any patient moves between a hospital, there's an understanding that the relevant notes, records, investigations, would move with the child."[169]

144. The 1999 Report of a Working Group into Hospital Services for the Acutely Ill Child in Northern Ireland advised in its recommendations that:

"A regional paediatric intensive care retrieval service should be established. The service should be available 24 hours a day. The clinical input should be provided by a team consisting of consultants in Paediatric Intensive Care and a paediatric nurse trained in paediatric intensive care, with appropriate paramedic and technical support. The service should be based in the regional PICU and should provide a service to all hospitals in Northern Ireland, where a critical child requires intensive care support during transport."

165 Ref: 300-001-001
166 Transcript of Oral Hearings on 19th April 2012, p.11
167 See List of Persons Ref: 325-002-001
168 Transcript of Oral Hearings on 19th April 2012, p.11
169 Transcript of Oral Hearings on 19th April 2012, p.13

"Clear policies and procedures should be agreed for the regional retrieval services including arrangements for a central contact point and designated responsibilities."[170]

145. The Inquiry has received a "*Protocol for the Inter Hospital Transfer of Patients and their Records*"[171] dated August 2006 published by the Clinical Resource Efficiency Support Team (CREST). The foreword of this document states: "*Over the years, hospitals have developed their own proposals for ensuring that the correct information is sent with the patient.*"[172]

146. The Inquiry has sought, but has not been provided with, any policies or procedures existing in 2000 at the Erne Hospital for inter-hospital transfer[173]. The Belfast Trust, in correspondence with the Inquiry through DLS, states that it is "*not aware of any policy, protocol or guidance in existence in 2000 relating to patients being transferred to PICU from another hospital*".[174]

Medical Notes Received by RBHSC from the Erne Hospital

147. Lucy was brought to the RBHSC without the clinical records relating to her management in the Erne Hospital and without any of the results of the investigations, including the laboratory results of her blood tests,[175] or the x-rays of her chest and abdomen[176] that had been carried out there and which are referred to in Dr. O'Donohoe's transfer letter.[177] Upon arrival, a brief transfer letter[178], addressed to Dr. McKaigue was handed over by Dr. O'Donohoe. A transfer form[179], with observations made during the journey by SN MacNeill[180], was also handed over. These documents had a number of omissions:

(i) Although Lucy's initial serum sodium of 137mmol/l is mentioned, her subsequent result of 127mmol/l, which was discovered following Lucy's seizure and after a quantity of normal saline had been run in freely, was not.[181] However, Dr. O'Donohoe has stated that he believes that he "*relayed the repeat electrolyte results in the verbal handover on arrival.*"[182]

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170 Ref: 315-009-024
171 Ref: 319-021a-001
172 Ref: 319-021a-003
173 Ref: 319-031-001
174 Ref: 319-021-001
175 Ref: 027-012-031 and Ref: 027-012-032 (laboratory results showing the serum sodium levels of 137mmol/l and 127mmol/l respectively)
176 Ref: 061-014-039 (Dr. O'Donohoe's transfer letter) and Ref: 033-102-317 (Dr. Auterson's statement to Mr. Fee)
177 Ref: 061-014-039
178 Ref: 061-014-038 to 061-014-039
179 Ref: 061-015-040
180 Ref: 061-016-041
181 At Ref: 250-003-102, para 533, Dr. MacFaul has noted that it is not evident that Dr. O'Donohoe informed PICU staff of the low blood sodium
182 Ref: WS-278/2, p.5

(ii) The type or volume of IV fluids (both pre and post seizure) which Lucy received at the Erne Hospital was not mentioned.[183]

(iii) Her respiratory deterioration is not mentioned, although the fact that she required 'bagging' and intubation is.

148. Dr. O'Donohoe has explained in his Inquiry witness statement that, while he did not make any specific reference to why the saline drip was running freely to Dr. McKaigue he "*relied on the entries in the Fluid Balance Chart to inform the receiving Clinicians as to the nature, quantities and timings of any fluids administered to Lucy.*"[184] However, the Children's Ward fluid balance chart was not sent with Lucy, although Dr. O'Donohoe claims to have faxed the 'fluid administration sheet' to Dr. Crean[185] after he had contacted him to query Lucy's fluids at the Erne Hospital. The Inquiry has sought but not yet received evidence of that fax.

149. The form used for the transfer of Raychel Ferguson just over a year later from Altnagelvin Hospital, which was in the same Board Area as the Erne Hospital, to the RBHSC provides a useful comparison.[186] Whilst both the Erne and Altnagelvin forms have sections to indicate what is being transferred with the patient, the Erne Hospital form refers only to "Valuables" and "Clothing", whilst the Altnagelvin form also specifies "Case notes" and "X-rays". It will also be noted that in contrast to Dr. O'Donohoe's transfer letter, Dr. Trainor's transfer letter in Raychel's case provided, amongst other details, the change in Raychel's electrolytes and her fluid management during her care at Altnagelvin Hospital.[187]

150. Some of Lucy's Erne Hospital medical notes and records relating to the period of her admission to the Children's Ward, although not ICU, were faxed to *"Dr. Crean ICU, RBHSC"* in response to a request from PICU at the RBHSC.[188]

151. The transmission record at the bottom of the page appears to indicate that the fax was transmitted, or perhaps received, at 09:51 on the 13th April.[189] However, another record at the top of the faxed copy of some of the pages from the Erne Hospital bears the time of 08:53 on 13th April.[190] The Inquiry has been unable to resolve this difference.

152. Dr. Crean, in his witness statement to the Inquiry, states that:

183 At Ref: 250-003-102, para 532, Dr. MacFaul has identified the limited attention paid to Lucy's fluid management in the transfer letter
184 Ref: WS-278/1, p.12.
185 Ref: WS-278/1, p.5
186 Ref: 020-024-052
187 Ref: 063-005-010
188 Ref: 061-018-059
189 Ref: 061-017-042
190 For example Ref: 061-017-051

"It was, and still is, usual practice to receive a copy of a patient's notes from the referring hospital when a patient is being transferred. If a photocopy of the notes does not accompany the patient when transferred, a copy of the notes will usually be faxed to PICU."[191]

153. Additionally, he states that:

"*As part of Lucy's initial resuscitation, it would have been helpful to have full knowledge of her fluid regime, as well as the rest of her clinical history*"[192]

154. It is unclear why Lucy's notes were not faxed through to the RBHSC prior to her arrival, or alternatively why copies of her notes did not accompany her to the RBHSC.

155. The Inquiry has produced a 'Schedule of Notes Received by the RBHSC'[193], comprising two parts:

(i) The first is a list of all of the notes faxed through to the RBHSC, including a brief synopsis of the important clinical points arising from each document.

(ii) The second is a list of all the notes that were not faxed through, and again the important clinical points from these documents are also listed.

156. However, the fact that Lucy appears to have received a further 310ml of normal saline at the Erne Hospital is not indicated in the notes faxed to the RBHSC.

157. There is also the issue of what oral information was given by Dr. O'Donohoe and Staff Nurse MacNeill during their time at the RBHSC before returning to the Erne Hospital. Dr. McKaigue refers to obtaining knowledge "*as a result of speaking with Dr. O'Donohoe at the bedside*".[194] Dr. McLoughlin, PICU SHO on call, claims in her PSNI statement to have obtained the information for her 08:30 entry in Lucy's notes[195] in part from the 'transfer team' (i.e. Dr. O'Donohoe & Staff Nurse MacNeill).[196]

158. Staff Nurse MacNeill refers, in a statement she provided to Mr. Eugene Fee[197] (Director of Acute Hospital Services at the Erne) on 27th April 2000, to giving the Staff Nurse in PICU a report on Lucy's condition.[198] There is no note of what she informed the nurse nor is there any record in the PICU notes that

191 Ref: WS-292/1, p.3
192 Ref: WS-292/1, p.5
193 Ref: 325-006-001
194 Ref: WS-302/1, p.7
195 Ref: 061-018-058
196 Ref: 115-025-001
197 See List of Persons Ref: 325-002-001
198 Ref: 033-102-283

such a report was given. The Inquiry is seeking to establish whether there is any evidence that Staff Nurse MacNeill provided information regarding Lucy's fluid regime at the Erne Hospital.

XI. Admission to the RBHSC

Admission to PICU

159. Lucy arrived at the RBHSC shortly after 08:00 and was admitted to PICU under the named care of Dr. Peter Crean[199], Consultant in Paediatric Anaesthesia and Intensive Care. There is an issue as to which clinician had responsibility and/or management of Lucy's case during her admission, and this will be discussed later in this opening. The clinical records associated with the period when Lucy was treated in the RBHSC can be found in File 61.

160. Dr. McKaigue received Lucy in the PICU at 08:00 and made a brief retrospective entry of his involvement in the case notes.[200] There is no reference in Dr. McKaigue's note to the fluids which Lucy had received. In his PSNI statement, Dr. McKaigue stated that, shortly after Lucy arrived, he was called to deal with another emergency and left Lucy in the care of his colleague, Dr. Anthony Chisakuta[201], Consultant in Paediatric Anaesthesia and Intensive Care. Dr. Chisakuta also made a retrospective note to the effect that, between 08:35 and 08:50, he inserted a central line into Lucy.[202] He too made no reference to Lucy's fluid regime at the Erne Hospital.

161. The PICU Nursing notes[203] record that Lucy weighed 9.8kg on admission to PICU, an increase of 0.66kg (7.2%) of her body weight compared with her weight on admission to the Erne Hospital little more than 12 hours earlier. It is not apparent from the clinical notes that this increase was queried once her Erne Hospital notes had been received by RBHSC.

Attendance by Dr. McLoughlin

162. A history was recorded[204]in Lucy's case notes by Dr. Louise McLoughlin[205], SHO PICU. This is timed as beginning at 08:30 on 13th April. Among other matters, Dr. McLoughlin recorded that Lucy's blood sodium following admission was 137, and that "*ivf (intravenous fluids) were commenced at 22.30.*" The type and volume of fluid is not recorded. Dr. McLoughlin also recorded that Lucy was examined by a Registrar. It is understood that this was Dr.

199 See List of Persons Ref: 325-002-001
200 Ref: 061-018-064
201 See List of Persons Ref: 325-002-001
202 Ref: 061-018-064
203 Ref: 061-025-081
204 Ref: 061-018-058 to 061-018-059
205 See List of Persons Ref: 325-002-001

Caroline Stewart.[206] Finally, Dr. McLoughlin noted "*Erne notes requested for further info.*"

163. Dr. Auterson, Lucy's Consultant Anaesthetist at the Erne Hospital, stated in his statement dated 20th April 2000 for Mr. Fee, Director of Acute Hospital Services, Erne Hospital, that he rang RBHSC at 08:30 on 13th April and was informed that Lucy had arrived safely, was being stabilised on a ventilator but that there was no improvement in her neurological status. He did not state whether he discussed her electrolyte results.[207]

164. Lucy's electrolyte results were subsequently telephoned into the RBHSC at 09:00[208], although the time of the result is not noted – it is simply recorded as a "*repeat U&E*". Dr. McLoughlin noted that these had been provided by "*Anaesthetist in Erne Hospital*".

165. The Inquiry has sought to identify this anaesthetist. The response from the DLS dated 16th May 2013 advises that, whilst Dr. Auterson recalls telephoning RBHSC PICU at 08:30 on 13th April 2000 to check on Lucy, he does not remember providing the serum sodium result of 127mmol/l. However, he "*has no reason to think that this information [recorded by Dr. McLoughlin] did not come from him during this telephone conversation*."[209]

Attendance by Dr. Crean

166. Lucy was seen by her named consultant, Dr. Crean, during the course of a ward round on 13th April 2000. Although there is no note of it Dr. Dara O'Donoghue[210], SHO acting Registrar at RBHSC, states in his PSNI statement that he accompanied Dr. Crean on that ward round together with an SHO and a nurse.[211] Dr. Crean observed that Lucy was "*still polyuric*". He noted that her blood sodium on testing in the ward was 140mmol/l, and that "*I am awaiting faxes of her notes from the Erne Hospital and she is to be reviewed by a paediatric Neurologist this morning*".[212] Although the timing of the ward round is not recorded in the notes, it may have taken place before Lucy's Erne clinical records were faxed.

167. It would appear that, at some point on 13th April 2000, Dr. Crean rang Dr. O'Donohoe at the Erne Hospital to enquire what fluid regime Lucy had been on, as he thought it had been Solution No.18 at 100ml/hr. It can therefore be presumed that this conversation took place after he had received Lucy's Erne medical notes, including her fluid balance chart.

206 Ref: 115-022-001
207 Ref: 013-025-092
208 Ref: 061-018-060
209 Ref: 319-086-001
210 See List of Persons Ref: 325-002-001
211 Ref: 115-036-002
212 Ref: 061-018-065

168. This conversation is recorded by Dr. O'Donohoe in a retrospective note on 14th April 2000, which indicates that he told Dr. Crean that he recalled having said "*a bolus of 100mls over 1 hour followed by 0.18% NaCl/Dextrose 4% at 30ml/hour*".[213] Dr. Crean does not recall that conversation.

169. There are issues to be considered during the Oral Hearings arising out of this conversation (if it took place in the way retrospectively noted by Dr. O'Donohoe) in that it would have flagged up for Drs. Crean and O'Donohoe differences between the IV fluids that it was intended Lucy should receive and those that she did receive. In turn, that should have allowed them to focus on the potential significance of that for Lucy's seizure and collapse. This will be discussed further in the section dealing with the response by the Sperrin Lakeland Trust to Lucy's death.

170. Dr. Crean recognised at the Inquest that Lucy's sodium fell "*within a short period*", that "*the rate of fall is the crucial factor*"[214], and that "*the drop from 137 to 127 would ring alarm bells.*" Additionally, Dr. Crean stated that "*it was wrong to use No.18 for both replacement and maintenance purposes.*" As shall be discussed later, the RBHSC appears to have been no longer using Solution No.18 in April 2000 as an IV fluid for paediatric patients.

171. However, Dr. Crean has recently provided the Inquiry[215] with a published exchange between Professor Arieff and a Dr. Simon Ellis in the Department of Clinical Neurology at the Radcliffe Infirmary which addresses specifically the view that "*the rate of fall is the crucial factor*". Professor Arieff has stated that:

> "*Data showing that either the magnitude or the rate of development of hyponatraemia correlates with brain damage do not exist. On the contrary, a recent prospective study of 739 patients who were hyponatraemic postoperatively clearly shows that neither factor has any relation to brain damage.*"[216]

172. It is an issue to be considered during the Oral Hearings why Dr. Crean was able to come to these conclusions in 2004, but was unable to do so in April 2000. Whether Dr. Crean should have recognised the significance of Lucy's fluid regime, and discussed this further with others, especially Dr. Hanrahan and the Coroner, are matters to be considered during the Oral Hearings.

Attendance by Dr. Hanrahan

173. Dr. Crean arranged for Lucy to be seen by Dr. Donncha Hanrahan[217], Consultant Paediatric Neurologist. According to his note,[218] Dr. Hanrahan saw her at 10:30.

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213 Ref: 027-010-024
214 Ref: 115-029-001
215 Ref: WS-292/2, p.59
216 Ref: WS-292/2, p.60
217 See List of Persons Ref: 325-002-001
218 Ref: 061-018-060

174. Dr. Hanrahan's differential diagnosis consisted of:[219]

(i) Infection

(ii) Haemorrhagic shock encephalopathy

(iii) Metabolic disease

(iv) Cerebral oedema from other cause.

175. However, Dr. Hanrahan stated "*No cause clinically evident as yet*." [220] He did not identify hyponatraemia as a possible cause or symptom.

176. Dr. Hanrahan explained at his PSNI interview that he was aware, when he was treating Lucy, that the measurement of her sodium in the Erne Hospital had shown a drop from 137mmol/l to 127mmol/l, but that he did not regard this as marked or significant.[221]

177. Dr. Hanrahan further explained that he subsequently became aware, after a conversation with Dr. O'Donohoe on 3rd December 2004[222], that Lucy had been given a quantity of normal saline upon suffering her fit at or about 02:55 on 13th April, but before her electrolytes were analysed for the second time.

178. This subsequent knowledge led him to conclude, in retrospect, that her sodium must have been much lower than 127mmol/l at the time when she coned, and that dilutional hyponatraemia was responsible for the cerebral oedema.[223] Indeed, during his PSNI interview, Dr. Hanrahan went as far as to suggest that Lucy's serum sodium level could have been as low as 116mmol/l at the time of her collapse at about 03:00 on 13th April.[224]

179. Dr. O'Donohoe recalls the encounter with Dr. Hanrahan at a study day on 3rd December 2004. He has stated that he told Dr. Hanrahan during this chance meeting that *"the serum sodium might have been lower than 127 before the normal saline had been given"* and that he (Dr. O'Donohoe) put this forward as an explanation *"for why the cerebral oedema was so severe."*[225]

180. Notably it is Dr. O'Donohoe's recollection that Dr. Hanrahan "*did not support the idea*" and therefore Dr. O'Donohoe did not pursue it further. That is an issue to be pursued further.

181. Dr. McKaigue has said that he and Dr. Crean also later discussed the possibility that the effects of the infusion of normal saline may have raised

219 Ref: 061-018-063
220 Ref: 061-018-063
221 Ref: 116-026-005
222 Ref: 116-026-006
223 Ref: 116-026-013
224 Ref: 116-026-018
225 Ref: WS-278/1, p.10

Lucy's serum sodium level, thereby masking the true degree of her hyponatraemia.[226]

182. The information that Dr. Hanrahan claims was required to enable him to query the likely true extent of Lucy's hyponatraemia was included in the 'Daily Fluid Balance Chart' that was faxed to the RBHSC from the Erne Hospital on the morning of 13th April 2000.[227]

183. Nevertheless, whether Dr. Hanrahan saw those notes or even had access to them is far from clear. He states in his deposition to the Coroner that he did not have access to Lucy's Erne Hospital notes (including that fluid balance chart) at that stage,[228] despite his examination seemingly taking place after the Erne Hospital notes had been faxed through to the RBHSC. However, he then went on to state in his evidence at the Inquest that "*I accept fluid documentation may have arrived in RBHSC, but I did not see it until 10:30am.*" This is a confusing statement, as Dr. Hanrahan's examination of Lucy is timed at 10:30. Further confusion arises as Dr. Hanrahan, in his Inquiry Witness Statement, cannot recall the time at which he saw her fluid balance chart.[229]

184. Additionally and in the context of the formulation of the cause of death for the Death Certificate (which will be discussed later in this Opening), Dr. Hanrahan states that *"The [Erne] notes were considered. The notes confirmed that she was acutely ill with gastroenteritis."*[230] In addition, he states that *"The notes would have gone over [to Dr. O'Hara for the autopsy] as well"* and Dr. Stewart agrees that these notes were available by the time that she came to complete the Autopsy Request Form.[231] Although there is an issue to be discussed subsequently as to the documents provided to Dr. O'Hara, it appears to be a clear acknowledgement that Lucy's Erne notes were available to Dr. Hanrahan.

185. The faxed Erne Hospital notes included the nursing notes, which made clear the sequence of events in terms of fluid administration and blood testing:

> "*IV fluids changed to 0.9% Saline and allowed to run freely into IV line. Decreased respiratory effort noted at 03:20; airway inserted and bagging commenced by Dr. Malik. Dr. O'Donohoe in attendance. Repeat U&E's ordered…*"[232] (emphasis added)

186. Dr. Hanrahan appreciates the significance of the faxed nursing notes during his PSNI interview:

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226 Ref: WS-302/2, p.3
227 Ref: 061-017-056
228 Ref: 013-031-111
229 Ref: WS-289/1, p.7
230 Ref: WS-289/1, p.20
231 Ref: WS-282/1, p.8
232 Ref: 061-017-050

"…the sequence in terms of the…writing in the notes is that they changed to normal saline and then later on repeat using these orders, so would suggest that the Us and Es were taken after that"[233]

187. Dr. Hanrahan has since acknowledged in his Inquiry witness statement that:

"With hindsight, it could be argued that I could have been more rigorous in questioning the timing of the sodium analysis in the Erne. It did not occur to me that it might have been after the normal saline bolus that this took place. If I had questioned this, the real nature of Lucy's death might have become more evident. However, I believe that it was reasonable to assume that the blood was drawn at the time of Lucy's acute collapse, since emergency bloods are typically taken at the time of an acute episode, which her collapse at 3am was."[234]

188. However, as Dr. Hanrahan is at pains to stress in his PSNI interview, he made no attempt to investigate or clarify the position in respect of Lucy's fluid regime with any of the Erne Hospital clinicians:

"I have a desire to place on the record that I had no conversation with Doctor Jarlath O'Donohoe or anyone else from the Erne about this patient before or during my management of her."[235]

189. Quite why he did not seek to clarify matters with the Erne Hospital clinicians is not clear but will be explored during the Oral Hearings. So too will the extent to which Dr. Hanrahan and others should have realised that, from the information available to them, the serum sodium result reflected the position after Lucy had been administered a significant amount of normal saline and should therefore have appreciated the likely implications of that for understanding the cause of Lucy's collapse some 4½ hours after the start of the IV Solution No.18. In addition, the extent to which they should have realised that the administration of 100ml/hr of Solution No.18 or of 500ml of normal saline "running freely" were "grossly excessive" amounts which could or should have led to queries regarding Lucy's overall fluid regime will also be considered.

190. Dr. Hanrahan directed a number of neurological examinations, including a CT scan and EEG. He records at 17:45 that the results of the CT scan showed obliteration of the basal cisterns suggesting 'coning'.[236] The EEG was flat showing no discernible cerebral function.[237]

191. The EEG report dated 13th April 2000 records under "History" the following sequence:

233 Ref: 116-026-017
234 Ref: WS-289/1, p.26
235 Ref: 116-026-002
236 Ref: 061-018-065 & 061-036-117
237 Ref: 061-032-098

"vomiting++ - hyponatraemia - generalised seizure"[238]

192. It is not clear who provided this *"History"*. If it was provided or directed by Dr. Hanrahan, then is notable because at no time in his clinical notes does he actually state Lucy's sodium result or mention that she was hyponatraemic. However, despite the recognition of the causal link between Lucy's hyponatraemia and her general seizure, the 'history' betrays an apparent failure to grasp that there must have been an intervening 'cause'. Ordinarily it would be expected that severe vomiting would produce 'hypernatraemia', whereas 'hyponatraemia' would be more likely to result from an inappropriate response to such vomiting, such as the replacement of sodium rich gastric losses by the low sodium Solution No.18 IV fluid.

193. The Inquiry's experts and others have stressed, in their reports and oral testimony, that the potential dangers of using low sodium fluids for both maintenance and fluid replacement would have been known at the time Lucy and Raychel were being treated.[239] Nevertheless, and despite the opportunities that the PICU clinicians had to consider Lucy's Erne notes and discuss her condition with each other, there seems to have been a collective failure to recognise the significance of what is recorded in those notes.

Lucy's Death

194. The clinicians in PICU recognised at the outset that Lucy's prospects were hopeless. Dr. O'Donohoe's transfer letter refers to Lucy's pupils as being fixed and dilated from 03:30 on 13th April when he first looked at them.[240] The Western Health and Social Services Board Transfer Form also refers to her pupils as being fixed and dilated[241] as does Dr. McLoughlin's entry in Lucy's notes at 08:30 some 5 hours after Dr. O'Donohoe's examination.[242] She also adds that Lucy is very unresponsive to pain.[243] Dr. Hanrahan's note at 10:30 indicates that the *"findings would suggest that she shows no sign now of brainstem function."*[244]

195. Two sets of brain stem tests[245] were performed by Dr. Hanrahan and Dr. Chisakuta at 08:50 and 10:30, which were both 'negative'.

196. Following the brain stem tests, ventilatory support was removed and Lucy was declared dead at 13:15 on 14th April 2000.[246]

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238 Ref: 061-032-098
239 For example Dr. Haynes (Ref: 220-002-005) or Mr. Foster (Ref: 223-002-012) in Raychel
240 Ref: 061-014-039
241 Ref: 061-015-040
242 Ref: 061-018-059
243 Ref: 061-018-059
244 Ref: 061-018-063
245 Ref: 061-019-070
246 Ref: 061-018-068

197. In her deposition to the Coroner's Inquest, Lucy's mother recalled that on 14th April 2001, immediately after Lucy's death, Dr. Hanrahan told her and her husband that they "*should seek answers from the Erne Hospital as to what happened to Lucy*."[247] Indeed, Dr. Hanrahan believes that the 'sentinel event'[248] occurred in the Erne Hospital and that "*she was brain dead on arrival in Belfast*."[249]

198. Quite why Dr. Hanrahan had not sought 'answers' himself from the clinicians at Erne Hospital as to the possible cause of Lucy's cerebral oedema and death, if only to better explain matters to her parents, is a matter to be explored further during the Oral Hearings.

XII. Investigations into Lucy's Death

199. The extent to which there were opportunities to learn and disseminate the lessons about the potential dangers of administering a low sodium IV fluid such as Solution No.18 to replace gastric and diarrhoeal losses has lain at the heart of this part of the investigations into Lucy's death.

200. The Inquiry Legal Team has queried with the Belfast Trust when the RBHSC stopped using Solution No.18. The Belfast Trust, through the DLS, confirmed that there were no orders placed with the pharmacy by the RBHSC in respect of No.18 solution.[250] In a later letter, they retracted that statement, on the basis of a fresh search by the RBHSC pharmacy.[251] They have now provided figures to the Inquiry of the number of orders of Solution 18 bags from January 2000 to July 2001. It appears, although it has not been confirmed, that there was a decrease in the number of orders from around April 2001. It is therefore an issue to be considered during the Oral Hearings as to why this decrease at the RBHSC may have occurred, and if it did so, why this was not passed on to other hospitals in the province.

201. It will be appreciated that, just 14 months later, Solution No.18 was also used to replace Raychel's gastric losses who like Lucy, developed hyponatraemia and fatal cerebral oedema. As will also be appreciated, the fluid regime was administered to Raychel at Altnagelvin Hospital and that the respective Trusts of both the Altnagelvin and Erne Hospitals are both covered by the Western Health and Social Services Board.

202. The investigation has focused on events involving three main areas and within that a number of potential opportunities, which will be considered further during the Oral Hearings:

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247 Ref: 013-022-079

248 Any unanticipated event in a healthcare setting resulting in death or serious physical or psychological injury to a patient or patients, not related to the natural course of the patient's illness. See Glossary Ref: 325-005-001

249 Ref: WS-289/1, p.15 Q14(f)

250 Ref: 319-087a-001

251 Ref: 319-087c-001

(i) PICU, RBHSC, Pathology Department and the Royal Group of Hospitals Trust

- The receipt of the faxed Erne notes during the morning of Lucy's admission to PICU
- The presence of the transfer team (i.e. Dr. O'Donohoe and SN MacNeill) and the availability of Dr. Auterson at the Erne Hospital and Dr. O'Donohoe on his return, both of whom were in communication with clinicians in PICU during 13th April 2000
- The availability of the PICU clinicians for discussion for Dr. Hanrahan to clarify his thoughts on the cause of Lucy's terminal condition once he had formed the view that her inevitable death should be reported to the Coroner
- Dr. Hanrahan's report to Coroner's Office
- The Autopsy Referral process, including the consent gained, the quality of the information provided, particularly by the Autopsy Request Form prepared by Dr. Stewart on the basis of Lucy's notes and discussion amongst the PICU team, principally Drs. McKaigue, Crean, and Hanrahan, to formulate the 'working pathogenesis'
- The death certificate process, including the consideration by Dr. O'Donoghue of Lucy's medical notes, Autopsy Request Form and Provisional Autopsy Report, together with discussion amongst Drs. Hanrahan, Stewart and O'Donoghue
- The hospital post-mortem investigation carried out by Dr. O'Hara, including the information available to him over the period of his investigation, the consideration of his reports by the clinicians and their availability to engage in clinicopathological correlation
- The meetings with Lucy's parents that Dr. Hanrahan had on 9th June 2000 and that Dr. O'Hara had on 16th June 2000, together with the associated preparation for them
- The governance review processes, particularly the adverse incident reporting together with meetings of the Critical Incident Review Group established in March 2000 to have weekly meetings, and the Audit and Mortality meetings, especially the meeting on 10th August 2000 of the mortality section of the monthly RBHSC Audit meeting

(ii) Coroner's Office

- The report of the Lucy's death by Dr. Hanrahan
- The discussion between Dr. Hanrahan and Dr. Curtis and the consideration given to the cause of death as 'gastroenteritis, dehydration and cerebral oedema'

(iii) Erne Hospital, Sperrin Lakeland Trust and the Western Health and Social Services Board

- The discussions between Dr. Crean (RBHSC) and Dr. O'Donohoe which indicated to the latter that Lucy had not received the fluids and the quantities which had been directed
- Dr. O'Donohoe's report to Dr. James Kelly
- The availability of Lucy's clinical notes and records, and the autopsy report
- Dr. Auterson's knowledge that Lucy had received too much of the wrong fluid, together with his discussions with Dr. O'Donohoe, Dr. Anderson and anaesthetic colleagues
- Dr. Asghar's correspondence with Mr. Mills and subsequent meetings with him
- The review process, including the gathering of reports from the nursing and medical staff involved with Lucy's care, interviews with other staff, consideration of Lucy's hospital notes and records and the involvement of Dr. Murray Quinn
- The reports to the WHSSB by the Sperrin Lakeland Trust
- The discussions between Dr. O'Donohoe and Dr. Hanrahan
- The external review processes commissioned from the Royal College of Paediatrics and Child Health (RCPCH)

203. Notwithstanding the need for further investigation during the Oral Hearings, it is clear that until the Coroner's Verdict was announced in 2004 it remained the publicly stated position that the cause of Lucy's death was as had been described in her death certificate, namely, a cerebral oedema due to or as a consequence of dehydration and gastroenteritis.[252] That is a cause which has been described as *"illogical"* by the Inquiry's experts Professor Lucas[253] and Dr. MacFaul.[254] Indeed during his PSNI interview, Dr. Hanrahan

252 Ref: 013-008-022
253 Ref: 252-003-011
254 Ref: 250-003-007

acknowledged in response to the question *"how a child can be dehydrated and have cerebral oedema"*[255] that *"Yes, it's very difficult in retrospect"*[256]

204. Therefore, by June 2001, some 14 months after Lucy's death, when Raychel Ferguson was admitted for treatment in the Altnagelvin Hospital, there had been a failure to identify and disseminate the true cause of Lucy's death. As a consequence of this, it might be contended that the medical profession and health care providers in Northern Ireland were deprived of an opportunity to extract and learn appropriate lessons from Lucy's case before Raychel died.

205. Accordingly, a crucial issue to be explored during the Oral Hearings is the extent to which any 'missed opportunities' could have had an impact on the fluid regime established for Raychel and/or the timely recognition of her hyponatraemic symptoms.

206. The information on those opportunities that the Inquiry has obtained through its investigation to date will be addressed in successive sections in this Opening.

XIII. Involvement of the Coroner's Office

207. The communications on 14th April 2000 between Dr. Hanrahan, the Coroner's Office and Dr. Michael Curtis,[257] Assistant State Pathologist, form an integral part of the narrative. A Coroner's inquest at that stage would have provided an early opportunity to identify the extent to which hyponatraemia was involved in Lucy's death as well as possibly enabling the potential dangers surrounding the use of Solution No.18 to be reiterated and publicised before Raychel was admitted to Altnagelvin Hospital on 7th June 2001.

208. That latter possibility is raised in a letter dated 27th February 2003 from Mr. Stanley Millar,[258] Chief Officer of the Western Health and Social Services Council, to Mr. John Leckey, [259] the Coroner for Greater Belfast:

> *"Would an Inquest in 2000/2001 have led to the recommendations from the Raychel Ferguson Inquest being shared at an earlier date and the consequent saving of her life?"*[260]

209. Mr. Chairman, you have indicated in a Note dated 21st May 2013[261] that, subject to submissions from the parties, criticism in your report of the way in which the Coroners Service functioned at the time of Lucy's case lies outside your remit, given that the Inquiry was established by the then Minister with

255 Ref: 116-026-021
256 Ref: 116-026-022
257 See List of Persons Ref: 325-002-001
258 See List of Persons Ref: 325-002-001
259 See List of Persons Ref: 325-002-001
260 Ref: 013-056-321
261 Ref: TO BE REFERENCED

responsibility for Health, Social Services and Public Safety of Health pursuant to provisions in the Health and Personal Social Services (Northern Ireland) Order 1972.

210. Accordingly, this section of the Opening will be confined to a description of how the system operated at that time, its interaction with the clinicians in Lucy's case and the relevance of that to the issues published in the List of Issues derived from the Inquiry's Revised Terms of Reference.

The Legal Duty to Report

211. The legal duty to report a death to the Coroner is contained in section 7 of the Coroners Act (Northern Ireland) Act 1959 ("the 1959 Act") which provides[262]:

> *"Every medical practitioner, [...] who has reason to believe that the person died , either directly or indirectly, as a result of violence or misadventure or by unfair means, or as a result of negligence or misconduct or malpractice on the part of others, or from any cause other than natural illness or disease for which he had been seen and treated by a registered medical practitioner within 28 days prior to his death, or in such circumstances as may require investigation (including death as the result of the administration of an anaesthetic) shall immediately notify the coroner within whose district the body of such deceased person is of the facts and circumstances of the death."*

212. This sets out both the persons on whom the duty to report falls and the circumstances in which the duty arises. Notably the duty falls on "*every medical practitioner*" who "*has reason to believe"* that the deceased died "*directly or indirectly*" in any one of five separate, but potentially overlapping, sets of circumstances.

213. Therefore, it appears that the fact that Lucy had been declared dead at the RBHSC would not have absolved the clinicians at the Erne (Dr. Kelly, Dr. Auterson and Dr. O'Donohoe) of their statutory responsibility to report her death if they considered that it met the statutory criteria. Similarly, Dr. O'Donohoe would not have avoided such responsibility on the basis that he was aware that Dr. Hanrahan had already contacted the Coroner's Office;[263] his duty remained so long as he was aware of circumstances that rendered her death reportable.

214. Dr. O'Hara would also have been under a duty to report Lucy's death to the Coroner if, following his post-mortem investigations, he had formed the requisite 'reason to believe'. Dr. Herron, Consultant Neuropathologist at the Royal,[264] discussed that very circumstance during his evidence in relation to Claire,[265] which it will be recalled was also a hospital post-mortem.

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262 See also Ref: 303-052-726 - Dr. Dolan's background paper for the Inquiry
263 Ref: WS-278/1, p.7
264 See List of Persons in Claire, Ref: 310-003-001
265 Transcript of the Oral Hearings, 29th November 2012, p.50, p.65-66, p.216

215. The Chief Medical Officer for England and Wales wrote to all doctors in 1998 regarding their duty to report, stressing "*the need for clinicians to disclose all relevant information to the Coroner to ensure a fully informed decision on the cause of death*" and emphasising that clinicians disclose information voluntarily and not only when requested to do so.[266] The Inquiry Legal Team is seeking information on whether the Northern Ireland Chief Medical Officer took similar action.

216. Since the legislation does not specify any time limits after which a clinician is to be relieved of the duty to report, the duty is a continuing one. Therefore if, at any stage during the events at the RBHSC and the Erne Hospital following Lucy's death, a doctor had come into possession of information that caused him to have the necessary 'reason to believe', then that doctor would have been obliged to make a report to the Coroner. A failure to make such a report is a criminal offence.

217. Professor Lucas has considered the circumstances of Lucy's death and the information available to the clinicians and the pathologist Dr. O'Hara and he states in his report to the Inquiry that: "*The clinicians and the pathologist (if the former had not) should have reported the case to HM Coroner*."[267]

218. Mr. John Leckey,[268] HM Coroner, and Mr. Desmond Greer[269] point out in their text on coronial practice in Northern Ireland and quoting from Northern Ireland Hansard[270] from the introduction of the Bill, that the principal circumstances in which deaths are reportable to the Coroner are set out in sections 7 and 8 of the 1959 Act, which "*are framed so as to secure, as far as humanly possible that all questionable deaths are brought to [the Coroner's] notice*".

219. The five categories of reportable death are:

    (i) Death as a result of violence or misadventure, or unfair means

    (ii) Death as a result of negligence or misconduct or malpractice on the part of others

    (iii) Death from any cause other than natural illness or disease

    (iv) Death from natural causes where the deceased has not been seen by a registered medical practitioner in 28 days

    (v) Death in such circumstances as may require investigation, including deaths as a result of anaesthetic.

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266 Ref: 303-052-731
267 Ref: 252-003-008
268 See List of Persons Ref: 325-002-001
269 "Coroners' Law and Practice in Northern Ireland"(SLS 1998) by John Leckey and Des Greer, paragraph 3.01
270 HC Debs (NI) vol 44 col 1414 (14 May 1959)(Minister of Home Affairs)

220. The extent to which Lucy's death fell within one or other of those categories will be considered during the Oral Hearings.

Reporting to the Coroner

221. According to Leckey and Greer,[271] "*The report is normally in the form of a telephone call to the Coroner's Office or to the coroner in person*".

222. In a footnote to this paragraph, the authors emphasise the statutory requirement upon coroners to be available, while acknowledging that immediate contact may not always be possible.

> *"Rule 2 of the 1963 Rules provides that "A coroner shall at all times hold himself ready to undertake, either by himself or his deputy, any duties in connection with deaths reported to him, inquests and post-mortem examinations." For this purpose most coroners have available a mobile telephone or pager for contact outside office hours. Nonetheless "immediate" contact is not always possible in practice."*

223. Leckey and Greer further discuss this requirement at paragraph 2.08. The import of this rule is that "*either the coroner or deputy must be contactable on a 24 hour basis every day of the year*" with the exception of illness or holidays. Mrs. Dennison,[272] who worked in the Coroner's Office at the time of Lucy's death, confirms in her Inquiry witness statement that the arrangements for reaching the Coroners included her having their mobile telephone numbers.[273]

224. The statutory duty is to report "*the facts and circumstances of the death*". Dr. Bridget Dolan BL, in her background paper for the Inquiry, points out that this is a wider obligation than the common law duty in England and Wales.[274]

225. Leckey and Greer[275] at paragraph 3.07 emphasise the importance of "*close scrutiny of the causal chain*", and go on to assert that "*where a medical practitioner believes a death is reportable to the coroner, a death certificate should* ***not*** *be issued unless, having reported the death and discussed the circumstances, the coroner directs that a death certificate may be issued.*

226. Discussing the reporting of deaths in the course of medical treatment, Leckey and Greer[276] (para 3-10) acknowledge that at the time of death "*it may be difficult to know whether the death was due to the medical procedure, the effect of an anaesthetic or some unforeseen medical complication*". Assisting the coroner, calls for "*complete candour on part of the clinicians concerned. All the circumstances should be discussed and, if necessary, the coroner should seek independent advice from the State Pathologist's Departmen*t"

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271 Paragraph 3.02
272 See List of Persons Ref: 325-002-001
273 Ref: WS-276/1, p.3
274 Ref: 303-052-715
275 Paragraph 3.11
276 Paragraph 3.10

227. Leckey and Greer highlight the importance of taking account of any complaint by the parents:

> "*In deciding whether to allow a death certificate to be issued the coroner will normally take into account any complaint made by the patients family about the patients treatment. Usually complaints of this nature are made in the first instance to the hospital concerned, though sometimes they are made to the coroner by the family…*"

228. The Inquiry has been informed by the DLS that "*The Coroners Service have confirmed that there has been no change in protocol from 1995 [to the present] in reporting a death.*"[277]

229. The version of the GMC's 'Good Medical Practice' that was applicable to the period 1998 to 2001 states as follows:

> "*You must co-operate fully with any formal inquiry into the treatment of a patient. You should not withhold relevant information. Similarly, you must assist the coroner [...] when an inquest or inquiry is held into a patient's death.*"[278]

230. The second edition of the RBHSC's "*Paediatric Medical Guidelines*" dated June 1999 states that:

> "*The Coroner's autopsy is requested by the Coroner when the death falls into the following categories: 1. sudden unexpected death (at home or in hospital) 2. unnatural cause of death 3. anaesthetic death; 4. when there is a possibility of litigation…If the death falls within one of the above categories, telephone the Coroner's Office …and give the Coroner or his officer a short summary of the clinical history. Remember that both paediatric and forensic pathologists do autopsies for the Coroner so ask which pathologists are to perform the autopsy*"[279]

231. It is notable that one of the compilers of these guidelines was Dr. Moira Stewart[280], who, as shall be seen below, was involved in the RCPCH review of Dr. O'Donohoe's care in, amongst others, Lucy's case.

232. The DLS has also provided the Inquiry with a policy "*What to do after death*"[281] dated 2012. While this obviously postdates Lucy's death, it provides some guidance on reporting to the Coroner, involving legal requirements that are materially unchanged since then. Of particular note is the recommendation that the Coroner should be informed of deaths "*in any circumstances that require investigation; the death though apparently natural, was unexpected*".[282]

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277 Ref: 319-021g-001
278 Ref: 315-002-009
279 Ref: 319-067a-030
280 See List of Persons Ref: 325-002-001
281 Ref: 319-021c-001
282 Ref: 319-021c-018

Contact by Dr. Hanrahan

233. The last entry made by Dr. Hanrahan in Lucy's notes prior to her death is timed at 17:45 on 13th April 2000 in which he notes her *"prognosis, in my opinion, is hopeless and indications are that she is brain dead"*.[283] He then notes that Lucy will need brain stem tests and that her parents are "*agreeable to her not being actively resuscitated"*[284] if she deteriorates over night and specifically records: *"If she succumbs, a PM would be desirable – coroner will have to be informed"*.[285] Dr. Hanrahan explained his reasons for concluding that Lucy's death required to be reported to the Coroner during his PSNI interview and in his Inquiry witness statement :

(i) *"Cause of death was unclear to me. Lucy also had died within a short time of admission to hospital"*[286]

(ii) *"The reason for her death was not entirely clear"*[287]

(iii) *"I felt a post-mortem was desirable as I was not confident as to the cause of death. My uncertainty did not extend to believing that the patient had died an unnatural death, but simply that a child presenting with gastroenteritis should not then have brain oedema without the matter being further investigated"*[288]

(iv) *"I was…sufficiently concerned that the cause of death be properly examined and I assumed that I did say….That the patient died of gastroenteritis, dehydration and brain oedema"*[289]

(v) *"I voluntarily contacted the Coroner's Office because I felt that the death in the context of a usually trivial illness was unusual"*[290]

(vi) *"Certainly I felt the Coroner needed to be informed about this and so I suppose as I had spontaneously written that in the notes I was the one that did it"*[291]

234. Nevertheless, in completing the Diagnosis of Brain Death form he was equivocal, providing no answer to the question "*Is this a Coroner's case?*" This is to be compared to the clear answer on the form for Adam ("*Yes*"[292]) and on that for Claire *("No"*[293]).

283 Ref: 061-018-065
284 Ref: 061-018-066
285 Ref: 061-018-066
286 Ref: WS-289/1, p.10
287 Ref: WS-289/1, p.17
288 Ref: 116-026-004
289 Ref: 116-026-007
290 Ref: 116-026-011
291 Ref: 116-026-015
292 Ref: 058-004-009
293 Ref: 090-045-148

235. Having reached the view that Lucy's death was to be reported to the Coroner, Dr. Hanrahan was required, pursuant to section 7 of the Coroners Act (Northern Ireland) 1959, so do so promptly. He complied with that duty by reporting to the Coroner's Office on 14th April 2000, the day of Lucy's death.[294]

236. The report is recorded by Dr. Stewart in Lucy's notes: *"Coroner (Dr. Curtis on behalf of coroners) contacted by Dr. Hanrahan – case discussed, coroners PM is not required, but hospital PM would be useful to establish cause of death + rule out another Δ [diagnosis]. Parents consent for PM ✓"*[295]

237. It is also recorded in the main register of deaths at the Coroner's Office[296] by Mrs. Maureen Dennison[297] of the Coroner's Office who also records the clinical history apparently reported to her:

"*Gastro Interitus (sic), Dehydrated, Brain Swelling.*"[298]

238. Mrs. Dennison explained her role in her PSNI Witness Statement:

"My role was to take reports of deaths from either police, GPs or hospitals and then report it to the Coroner for his decision. I would then make a written record of the report and record details of the death."[299]

239. She explained further in her Inquiry witness statement that she was to obtain the patient's:[300]

(i) Name

(ii) Address

(iii) Date of birth

(iv) Date of death

(v) Circumstances of death

240. In addition, Mrs. Dennison states that she was then to report it as soon as possible to the Coroner, who would decide if a post-mortem was required or if the death certificate would be issued. She was to contact the Coroner to inform him of a death and "*on any death that we needed to speak to him*".[301]

294 Ref: 061-018-067
295 Ref: 061-018-067
296 Ref: 013-053a-290 and Ref: 115-033-001
297 See List of Persons Ref: 325-002-001
298 Ref: 013-053a-290
299 Ref: 115-033-001
300 Ref: WS-276/1, p.2
301 Ref: WS-276/1, p.3

The Role of Dr. Curtis

241. The Coroner was not available and so Mrs. Dennison redirected Dr. Hanrahan to Dr. Curtis of the State Pathologist's Office.[302] She has stated that she did so "*to get advice about this death*".[303] Mrs. Dennison explains that, when the Coroner was unavailable, they "*usually rang State Pathology for advice*".[304]

242. Mr. John Leckey, HM Coroner for Greater Belfast, states that this was an accepted procedure.[305] However, it is not clear why advice was required, since Dr. Hanrahan seems to have been clear that Lucy's death was one that required to be reported to the Coroner.

243. Mr. Leckey has explained that "*the practice had evolved*"[306] whereby it was possible to seek advice and guidance from the State Pathologist's Department if it was unclear to either the Coroner or his staff whether it was appropriate for a death certificate to be issued by a reporting doctor or whether it was necessary for a post-mortem examination to take place.

244. Mr. Leckey explains further that, in those circumstances, clarification could also be provided by the reporting doctor speaking directly to one of the state pathologists or the state pathologist making contact with the reporting Medical Practitioner.[307] The Coroner's Office would normally be advised of the outcome of the discussion held and the medical practitioner was not bound to accept the opinion of the pathologist.

245. Mr. Leckey emphasises that the Coroner's role is reactive rather than proactive and only deals with deaths which are reported and comments on lack of 'quality assurance' of items entered on death certificates.[308]

246. However, Mr. Leckey states in his Inquiry witness statement (and similarly in a letter to Dr. Sumner dated 3rd March 2003[309]) that "*The pathologist [Dr. Curtis] would have been acting on my behalf as HM Coroner for Greater Belfast*".[310] The precise role of Dr. Curtis during the discussion with Dr. Hanrahan is therefore unclear – Mr Leckey's former statements indicate an advisory role, while his latter statement indicates that Dr. Curtis was acting for the Coroner. In addition, Dr. Hanrahan considered that he was speaking to Dr. Curtis as "*a representative of the Coroner's Office*".[311]

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302 Ref: 115-033-001
303 Ref: WS-276/1, p.4
304 Ref: WS-276/1, p.3
305 Ref: WS-277/1, p.3
306 Ref: WS-277/2, p.4
307 Ref: WS-277/2, p.4
308 Ref: WS-277/2, p.6
309 Ref: 013-058-342
310 Ref: WS-277/1, p.4
311 Ref: WS-289/1, p.10

247. Mrs. Dennison is clear in her Inquiry witness statement that *"Dr. Curtis had no role"* in the absence of the Coroner.[312]

248. Dr. Curtis is also clear in his Inquiry witness statement describing his role as Assistant State Pathologist (as a Consultant Forensic Pathologist) who would:

> "*occasionally receive informal requests for advice from medical colleagues. These would usually be telephone calls and would include advice regarding the cause of death in a particular case and also requests for assistance from other pathologists who may have had concerns about autopsy findings."*[313]

249. In relation to his practice of providing advice to clinicians, he explained further in his witness statement to the Inquiry that:

> "*In general, it was (and remains) my practice to advise clinicians who may seek advice about a death certificate that if they have any worries or concerns they should speak to the Coroner. I will also suggest that if a death does not fall within the guidelines for referral to the Coroner*[314]*, but they have any doubt about a cause of death that they should have a hospital post mortem done."*[315]

250. Dr. Curtis states that he is unaware of any formal or informal arrangement between the State Pathologist's Office and the Coroner's Office.[316] The system has now changed in that the Coroner's service now has a full-time Medical Advisor. In any event, Dr. Curtis states he would never suggest whether or not a Coroner's post-mortem was required *"in a case which fell out with the guidelines"* as "*that is entirely a matter for the Coroner."*[317]

Discussion between Dr. Hanrahan & Dr. Curtis

251. According to the Coroner, Dr. Curtis reached the view that a Coroner's post mortem examination was unnecessary.[318] Unfortunately, there is no record of the discussion, and this failure to record is a matter to be considered during the Oral Hearings.

252. Dr. Curtis cannot recall any of the details of Lucy's case, and so cannot recall if he did report back to the Coroner's Office.[319] He states that this:

> *"appears to have been an ad hoc call which I dealt with in an effort to help a clinician. I note that Mrs Maureen Dennison has indicated that she passed the call to me*

312 Ref: WS-276/1, p.4
313 Ref: WS-275/1, p.3
314 Ref: WS-275/2, p.2 – Dr. Curtis indicates that by 'guidelines' he meant "*the categories of death that should be reported to the Coroner"*
315 Ref: WS-275/1, p.5
316 Ref: WS-275/2, p.3
317 Ref: WS-275/1, p.5
318 Ref: 013-058-342
319 Ref: WS-275/1, p.5

because she could not get in touch with the Coroner. That is not something I remember happening on any other occasion."[320]

253. Dr. Curtis has stated that he suspects that he reached the view that Lucy died of natural causes on being told that she had gastroenteritis which is a natural cause of death. He has also said that "*had the hyponatraemia been mentioned alongside dehydration*"[321], as it was in the autopsy request form, he would have referred the case to the Coroner,[322] and recommended the involvement of a chemical pathologist or medical biochemist.[323] In addition, he stated that he had no experience of fluid management[324] and that there was no arrangement for him to consult on death notices.[325] He conceded that it is possible that he and Dr. Hanrahan may have discussed the death certificate and what should be on the certificate, though again he cannot recall doing so.

254. In a covering letter to the statement which Dr. Hanrahan signed on 17th June 2003 in anticipation of an Inquest, Dr. Hanrahan, referring back to the time of his initial report to the Coroner's Office on 14th April 2000, expressed his surprise that the "*Coroner's Office did not feel that their involvement was necessary*."[326]

255. In a later statement which he provided for the PSNI, Dr. Hanrahan has indicated that he cannot recall this discussion with Dr. Curtis.[327] He told the PSNI that a post mortem was desirable because he was unsure as to the cause of death, but he explained that his "*uncertainty did not extend to believing that the patient had died an unnatural death but simply that a child presenting with gastroenteritis should not then have brain oedema without the matter being further investigated.*"[328]

256. Dr. Hanrahan cannot remember whether he discussed hyponatraemia with Dr. Curtis, but he has stated that he may not have done so because "*it was not something to the forefront of my mind at this time.*"

257. What clinical features (particularly hyponatraemia and fluid management) were, and were not, discussed with the Coroner's Office by Dr. Hanrahan will be a matter to be considered during the Oral Hearings.

258. Dr. Hanrahan has since acknowledged that, had he known that the drop in Lucy's sodium could have been worse (due to it being subsequently raised by the administration of normal saline[329]), "*with hindsight, I might have considered*

320 Ref: WS-275/1, p.3
321 Ref: WS-275/2, p.3 Q.3
322 Ref: 061-022-073
323 Ref: 061-022-073 & WS-275/1, p.7 Q.8
324 Ref: WS-275/1, p.3
325 Ref: WS-275/2, p.2
326 Ref: 062-034-070
327 Ref: 115-050-004
328 Ref: 116-026-004
329 Ref: WS-289/1, p.25

a re-referral to the coroner".[330] Indeed, he states that it was not made clear to him that this was an option. He has also said that he:

"*Was under the impression that I had already informed the coroner and suppose I passed it on to Pathology really by that stage.*"[331]

259. As shall be discussed later in this Opening, it appears that Dr. Hanrahan had concerns regarding the inappropriate nature of the Lucy's fluid management as early as 9th June 2000. In addition, the hospital post-mortem did not produce a clear description of the underlying cause of death. In those circumstances, why Dr. Hanrahan did not consider that he should make a re-referral to the Coroner is an issue to be considered during the Oral Hearings

260. Dr. MacFaul states that the fall in sodium and the resultant hyponatraemia should have been reported by Dr. Hanrahan to Dr. Curtis.[332] In addition, Dr. Hanrahan should have indicated to Dr. Curtis the degree of uncertainty he had and discussed possible mechanisms of development of cerebral oedema such as encephalitis.

261. Professor Lucas is critical of both doctors due to the fact that dehydration cannot lead to brain oedema of itself – such a conclusion is "*illogical*".[333] He adds that proper consideration of the case at this stage should have dictated that further questions needed to be answered, and that the case should properly be taken on by the Coroner for investigation, since it did not add up pathophysiologically, and was unexpected. Thus, he believes that it was not, at this level, reasonable for Dr. Curtis to advise that a coronial autopsy was not necessary, and he should have made further inquiries into the causation of the brain oedema.

262. How the decision came to be made that a Coroner's post mortem examination was unnecessary if the explanation for its underlying cause was 'illogical' is a matter to be considered during the course of the Oral Hearings.

Contact by the Erne Hospital & Sperrin Lakeland Trust

263. The Sperrin Lakeland Trust was notified of Lucy's death by the RBHSC on 14th April 2000, the day of her death.[334] Neither the Erne Hospital nor the Trust reported Lucy's death to the Coroner then or subsequently. As appears from the discussion set out below, several clinicians including Dr. O'Donohoe, Dr. Kelly, Dr. Malik and Dr. Anderson all had reason to be aware of the shortcomings in Lucy's care at the Erne Hospital and yet no contact was made with the Coroner's Office. It is unclear what steps senior management at the Trust took to address this issue.

330 Ref: WS-289/1, p.26
331 Ref: 116-027-004
332 Ref: 250-003-139
333 Ref: 252-003-011
334 Ref: WS-278/2, p.3

264. In a statement made to the PSNI on 25th January 2005, Mr. Leckey explained that the duty to report Lucy's death to him did not stop with Dr. Hanrahan but extended to Dr. O'Hara (see above) and also to "*those doctors concerned with the care and treatment of Lucy in the Erne Hospital*"[335] because they "*would have been aware that when Lucy left the Erne Hospital for transfer to the RBHSC she was in a moribund state.*"

265. The significance of the failure of clinicians at the Erne Hospital to report Lucy's death to the Coroner's Office is a matter to be considered during the Oral Hearings.

266. Dr. O'Donohoe, when asked in an Inquiry witness statement if he had considered reporting Lucy's death to the Coroner, stated that Dr. Hanrahan had informed him on the afternoon of 14th April 2000 "*that he had notified HM Coroner that Lucy had died and that HM Coroner had agreed that a hospital Post-Mortem could be carried out with the Parents' consent*", and that a Coroner's inquest was not being considered.[336]

267. Dr. O'Donohoe has also stated that he cannot recall whether he told anyone at the Sperrin Lakeland Trust that an Inquest was not being considered. It would appear, therefore, that others at the Trust laboured under the misapprehension that an Inquest would take place. It is unclear why those in the Trust had this understanding, given that Dr. O'Donohoe was aware there was to be a hospital post mortem with the parents' consent, and was thus not within the Coroner's remit.

268. At the time of Lucy's death, Dr. Kelly understood the convention was that clinicians at a hospital where a death occurred would refer the case to the Coroner's Office and he assumed the post-mortem was at the request of the Coroner and "*expected a Coroner's Inquest would take place*".[337]

269. Senior management at the Trust are on record as having told the PSNI that they had assumed that an inquest was inevitable and that they also assumed that the death would have been reported to the Coroner by doctors in the RBHSC.

270. Mr. Hugh Mills[338], the Chief Executive of the Trust, has stated that he did not discover until 12th October 2001, through the Trust's lawyers, that there was not going to be an Inquest.[339] It is unclear why the Trust made no contact with the Coroner's Office or the RBHSC then or subsequently to query the absence of an Inquest.

335 Ref: 115-034-003
336 Ref: WS-278/1, p.6
337 Ref: WS-290/1, p.10 Q.8
338 See List of Persons Ref: 325-002-001
339 Ref: WS-293/1, p.19

271. However, as is clear from the foregoing, the RBHSC treated Lucy's death as one which had occurred by reason of natural causes, and clinicians at the RBHSC were aware from the outset that there would be no Inquest for that reason.

272. Plainly, the apparent absence of communication between the two hospitals in relation to the circumstances leading to the death of Lucy and the question of the Coroner's input, are matters which are of interest to the Inquiry, and are to be considered during these Oral Hearings.

273. In addition, the contrast between the general belief at the Erne Hospital that there was going to be an Inquest, and the knowledge at the RBHSC that there was not going to be one is also to be considered during the Oral Hearings.

XIV. Hospital Post-Mortem

Decision to Conduct a Hospital Post-Mortem

274. In his statement of 17th June 2003, Dr. Hanrahan wrote:[340]

"The Coroner's Office advised us that a Coroner's post mortem was not required but that a hospital post-mortem would be useful to establish the cause of death and rule out other diagnoses. Her parents subsequently consented to post-mortem."

275. In a note recorded by Dr. Caroline Stewart, it further states that:[341]

"a hospital PM would be useful to establish cause of death + rule out other Δ. Parents consent for PM"

276. The Coroner has let it be known publicly that his office was unaware of the fact that a hospital post-mortem had been conducted in relation to Lucy's death[342], until he received correspondence from Mr. Stanley Millar on 27th February 2003.[343] However, as has been discussed above, it is unclear whether Dr. Curtis was acting on behalf of[344] or as "*a representative of the Coroner's Office*"[345] when he held a discussion with Dr. Hanrahan regarding a hospital post-mortem in Lucy's case. The significance of this is a matter to be considered during the Oral Hearings.

340 Ref: 062-034-072
341 Ref: 061-018-067
342 Ref: 013-004-007
343 Ref: 013-056-320
344 Ref: WS-277/1, p.4
345 Ref: WS-289/1, p.10

Guidance on Hospital Post-Mortems

277. The Royal College of Pathologists' document "*Guidelines for the Retention of Tissues and Organs at Post –Mortem Examination*", dated March 2000, sets out the importance of autopsies:

"*Despite modern advances in the investigation and management of patients, post mortem examinations continue to serve the public by providing information leading to advances in the practice of clinical medicine. Surveys continue to show significant discrepancies between ante-mortem clinical diagnoses and the actual cause of death determined by post mortem examination*".[346]

278. Additionally: "*The falling clinical post-mortem rate impacts adversely upon clinical audit and impedes the accountability of the medical profession to the public*".[347]

279. As has been discussed in previous cases in the Inquiry, the Royal College of Pathologists have also produced a useful set of "*Guidelines for Post Mortem Reports*" dated August 1993.[348]

Autopsy Request Form

280. An autopsy request form was sent by Dr. Caroline Stewart to Dr. M. Denis O'Hara[349], Consultant Paediatric Pathologist, who is now deceased. This may be an important document from the Inquiry's perspective because it recognises the presence of hyponatraemia. Dr. Stewart recorded the following on the request form:[350]

"Dehydration and hyponatraemia Cerebral oedema→ acute coning + brain stem death."

281. Dr. O'Hara is the same pathologist who is referred to by the Coroner as having, along with Dr. Bharucha, seen certain slides in relation to Adam's autopsy and expressed certain views.

282. Dr. Stewart acknowledges that she spoke to Dr. O'Hara to arrange the post-mortem but she cannot recall what was discussed.[351]

283. According to Dr. Caroline Stewart, the working pathogenesis entered on the autopsy form was the "*general thoughts of the team in PICU who looked after Lucy, including Dr. Hanrahan and the anaesthetists*".[352]

346 Ref: 319-025bc-004
347 Ref: 319-025bc-005
348 Ref: 306-072-001
349 See List of Persons Ref: 325-002-001
350 Ref: 061-022-073
351 Ref: WS-282/1, p.7
352 Ref: WS-282/2, p.3 Q.5

284. The significance of the reference to hyponatraemia in the document compiled by Dr. Caroline Stewart is unclear. In a statement which she provided to the PSNI, Dr. Stewart states that Lucy had been suffering from a range of biochemical abnormalities, and that no significance attached to her reference to the term 'hyponatraemia'.[353] In her statement to the Inquiry, she explained that she included it as it was the biochemical fact of a low sodium level and was recorded in both notes from the Erne Hospital and RBHSC.[354]

285. Likewise, during his PSNI interview of 2nd March 2005, Dr. Hanrahan explained that Dr. Stewart's reference to hyponatraemia in the clinical history section of the autopsy request form was not the same as implicating it in the chain of events leading to Lucy's death.[355]

286. Dr. MacFaul states that it was "*reasonable*"[356] for Dr. Stewart to communicate with the pathologist and she did so "*comprehensively*" when completing the autopsy request form on behalf of Dr. Hanrahan.

287. However, the autopsy request form does not give full details as to Lucy's fluid management, although this information would have been available in the clinical notes. Dr. Hanrahan has stated that Dr. O'Hara would have received the clinical notes as well[357], but Dr. Stewart has said that she did not provide any documents to Dr. O'Hara other than the autopsy request form.[358]

288. During the course of Claire's case, which Mr. Chairman you will recall was not reported to the Coroner and a hospital post-mortem was carried out, an issue arose as to the adequacy of the clinical summary on the autopsy request form. In that case the clinical notes accompanied the autopsy request form, which was regarded as standard by Dr. Meenakshi Mirakhur, Consultant Neuropathologist at the Royal,[359] and the Inquiry's experts Dr. Waney Squier and Professor Lucas. See for example from Dr. Squier:

> *"All clinical records should ideally be available, as the pathologist needs to satisfy himself that he has an understanding of the relevant history. This is best taken from the clinical notes but guidance from the treating physicians can be helpful in focussing on relevant parts of the clinical record."*[360]

289. On that occasion, the issue turned on the extent to which the pathologist was expected to read the notes as opposed to whether they should be furnished. Dr. Mirakhur considered it to be good practice to do so, as did the Inquiry's experts. Whilst Dr. Brian Herron[361], then a Registrar in neuropathology, noted

353 Ref: 115-022-002
354 Ref: WS-282/1, p.9
355 Ref: 116-026-005
356 Ref: 250-003-141
357 Ref: 116-027-002
358 Ref: WS-282/1, p.10
359 Claire's List of Persons Ref: 310-003-001
360 Ref: 236-004-005
361 Transcript of the Oral Hearings 30th November 2012, p.33

that a good clinical summary was essential, as pathologists do not always have time to read the notes.[362]

290. Professor Lucas has revisited the issue in his report on Lucy's case observing that the *"pathologist always expects to receive relevant and complete information from clinicians prior to autopsy; both via the medical records and often verbally"*.[363]

291. The extent to which pathologists are likely to require guidance from clinicians on fluid balance calculations in relation to electrolyte concentrations in the blood, has been recognised by Professor Lucas and will be considered later on in this Opening.

292. The issue of the extent to which both Dr. Stewart and Dr. Hanrahan could and should have drawn Dr. O'Hara's attention to the appropriateness or otherwise of Lucy's fluid regime, or alternatively whether they should have discussed it with him, are issues to be addressed during the Oral Hearings.

Autopsy Reports

293. Dr. O'Hara seems to have conducted the consent post-mortem on the day of Lucy's death - 14th April 2000. Professor Lucas wonders whether this is, in fact correct, as to have the autopsy done the same day or afternoon, as the death *"indicates either extreme and unusual urgency; or the wrong dates"*.[364]

294. The compilation of Dr. O'Hara's reports[365] requires some explanation. In their entirety, the reports run to a total of 12 pages and appear to be as follows:

(i) 17th April 2000 - Provisional anatomical summary[366]

(ii) 12th June 2000 - Full report, including final anatomical summary.

(iii) 6th November 2003 – Supplementary report[367] produced on the instruction of the Coroner on 28th April 2003[368]

295. There is also some confusion regarding dates. The full autopsy report does not indicate the date or time of death, which Professor Lucas classifies as "*unusual and remiss*".[369] In addition, the supplementary autopsy report gives the date of death incorrectly as 13th April and of the autopsy as 14th April.

296. Professor Lucas makes a number of criticisms about Dr. O'Hara's conduct of the autopsy:[370]

362 Transcript of the Oral Hearings 29th November 2012, p.28
363 Ref: 252-003-004
364 Ref: 252-003-016
365 Ref: 013-017-054
366 Ref: 013-017-061
367 Ref: 013-017-063
368 Ref: 062-041-090
369 Ref: 252-003-016
370 Ref: 252-003-005

(i) The depiction of the brain histology does not assist in understanding the chronology of the processes

(ii) The description of the adrenals is *"poor"*

(iii) The description of the kidney does not mention the presence or absence of disseminated intravascular coagulation.

297. In his full report of 12th June 2000, Dr. O'Hara observed that there were changes seen in the brain which were consistent with an acute hypoxic insult.[371] The report focussed on the fact that a pneumonic lesion was found within the lungs, and Dr. O'Hara concluded that this was "*important as the ultimate cause of death*".

298. It is noteworthy that when Dr. O'Donohoe considered the autopsy report he remarked in a letter to Dr. Kelly that he *"didn't know what to make of the bronchopneumonia and particularly the suggestion it may have been of some duration."*[372] He has confirmed that bronchopneumonia was not present when he treated Lucy.[373]

299. However, at 05:00 on 13th May 2000 at the Erne Hospital, a chest x-ray on Lucy detected no abnormalities.[374] It would appear that the PICU clinicians did not request or obtain that x-ray from the Erne Hospital and there is no indication that it was ever provided to Dr. O'Hara. For whilst Dr. O'Hara refers to x-rays in his autopsy report, he makes it clear they are *"post-mortem radiology"*[375] and therefore taken after Lucy had been on a ventilator for some time. There is no suggestion that Dr. O'Hara knew about the chest x-ray from the Erne Hospital but without it, he was not in a position to assess the early presence or otherwise of the *"well established bronchopneumonia"*[376] that he reported.

300. Professor Lucas regards it as *"surprising that the pathologist did not consider the more likely scenario that the pneumonia was a ventilator-associated pneumonia (VAP) acquired in intensive care … to ascribe the cause of death to pneumonia is the result of not thinking the case through properly"*.[377]

301. Professor Lucas states that Dr. O'Hara should have instead realised that the "*diarrhoea / rehydration / low sodium / CNS collapse*" history pointed towards a specific scenario – dilutional hyponatraemia with central nervous system damage.[378] He considers that Dr. O'Hara should then have moderated his

371 Ref: 013-017-055
372 Ref: 036a-051-114
373 Ref: WS-278/1, p.12
374 Ref: 027-010-023
375 Ref: 013-017-059. See too Ref: 061-036-118 for the radiology report
376 Ref: 013-017-064
377 Ref: 252-003-005
378 Ref: 252-003-004

autopsy process to accommodate this scenario, as well as confirming or excluding other possible clinico-pathological scenarios.

302. In particular, Professor Lucas expressed the view that Dr. O'Hara's "*most important act*"[379] should have been to inspect the laboratory records in the case and note the chronology of abnormal electrolytes and the correlation with the clinical scenario. He goes on to state that if Dr. O'Hara did not understand this scenario, or had not seen it before, then he should have spoken directly with the clinicians and "*done some reading of the literature*".[380] However, Professor Lucas concedes that recognition of the clinical significance of hyponatraemia was limited at that time.

303. Professor Lucas adds that the area of fluid management and biochemistry results (including electrolytes) is a difficult area for pathologists to deal with given their normal expertise, and he emphasises the need for pathologists to seek assistance from clinicians in interpreting fluid regimes and blood results.[381]

304. In the Coroner's letter to the Attorney General's Office on 30th April 2003, the Coroner stated that:

> "*Whilst [Dr. O'Hara] does not give a formal cause of death his findings point to hyponatraemia as being implicated. In my view Dr. O'Hara should have contacted me on completion of the post-mortem examination and suggested that it be converted.*"[382]

305. Dr. O'Hara's findings on post-mortem, and the lack of recognition of hyponatraemia as a possible cause of the cerebral oedema in the post-mortem report, are important issues to be considered during the Oral Hearings.

306. It seems that none of the clinicians involved in Lucy's case attended the hospital post-mortem conducted by Dr. O'Hara. Professor Lucas criticises the lack of clinico-pathological correlation (CPC) stating that the usual UK practice has always been that relevant doctors come to the mortuary to see a part or the whole of the consented autopsy and discuss the gross findings with the pathologist.[383] They would also discuss the evident or possible diagnoses, and what will be done next. This point was reiterated by Dr. Mirakhur in Claire's case.[384]

307. Professor Lucas adds:

> "*It is at CPC that all the issues in a case are discussed and resolved, as far as they are resolvable (for not all deaths do have a completely satisfactory pathophysiological explanation). The clinical presentation, laboratory data, imaging, differential*

379 Ref: 252-003-004
380 Ref: 252-003-004
381 Ref: 252-003-008
382 Ref: 013-052-280
383 Ref: 252-003-012
384 Transcript of the Oral Hearings, 30th November 2012, p.45

diagnosis, and the autopsy results are considered all together to determine what actually happened to the patient who died; and they consider what can be learned from the case for future practice."[385]

308. The report of the Joint Working Party of the Royal College of Pathologists, the Royal College of Surgeons of London and the Royal College of Surgeons of England, dated August 1991 and titled "The Autopsy and Audit", states that:

"Regular mortality meetings should be held to discuss and analyse the autopsy findings in individual patients or groups of cases. The major and primary purpose of these meetings should be educational. There should be frank discussion concerning diagnostic procedures, clinical management and outcome as part of normal hospital procedures. They should be used to evaluate both individual cases and the organisation of the hospital as a whole to ensure that in all aspects it is functioning for the benefit of individual patients."[386]

309. The Royal College of Pathologists document "*Guidelines for the Retention of Tissues and Organs at Post –Mortem Examination"* states:

"*Pathologists must be willing also to speak to relatives, on request and this is best done in liaison with the patients clinician".*[387]

Dr. O'Hara did speak to Lucy's parents but there is no evidence that it was in liaison with the clinicians.

310. The circumstances in which a pathologist would be expected to communicate with and obtain information from the clinicians who were responsible for treating the deceased is a matter to be considered during the Oral Hearings.

311. Dr. O'Hara's findings were not reported to the Coroner. Indeed, the fact that a post mortem had been performed at all was not brought to the attention of the Coroner. A copy of the post-mortem report was sent to the Erne Hospital.

312. The Coroner has stated that "*in retrospect Dr O'Hara should have reported his findings to me and I would then made this a coroner's case."*[388]

313. In addition to Professor Lucas' criticisms which I have already stated, Dr. MacFaul criticises Dr. O'Hara's report as follows[389]:

(i) The report did not identify the cause of cerebral oedema satisfactorily.

(ii) Neither the provisional anatomical summary or the final anatomical summary mention hyponatraemia although this had been listed as the

385 Ref: 252-003-012
386 Ref: 236-007-065
387 Ref: 319-025bc-008
388 Ref: 013-058-343
389 Ref: 250-003-007

third important clinical problem in the autopsy request form and mentioned in the clinical presentation and diagnosis section.[390]

(iii) He did not engage with the question of whether hyponatraemia contributed to the cause of death, although the clinical diagnosis referring to hyponatraemia (contained within the autopsy request form provided by Dr. Caroline Stewart) was documented within the report.[391]

(iv) He overemphasised the bronchopneumonia which was not a clinical feature on admission at the Erne Hospital.[392]

(v) He should have referred the case to the Coroner.

(vi) A death certificate should not have been issued at this point.

(vii) The RBHSC guidelines state that, if an autopsy is requested by a paediatric neurologist (such as Dr. Hanrahan), the autopsy is generally carried out by a neuropathologist.[393] This was not followed in Lucy's case.

(viii) The 12kg weight recorded at the autopsy is likely to be an error, but Dr. O'Hara should have paid attention to the weight because Lucy weighed 9.14kg at Erne admission yet weighed 9.8kg on admission RBHSC a gain of 660g (equivalent to 660ml fluid) was consistent with fluid overload, as was evidence of pulmonary oedema.[394]

314. Dr. MacFaul considers that in the absence of a clear explanation for Lucy's cerebral oedema, it was incumbent on either or both of Drs. Hanrahan and O'Hara to report again Lucy's death to the Coroner.[395]

315. The adequacy of the autopsy report and its findings provided by Dr. O'Hara, and whether there should have been discussions with clinicians regarding it, are matters to be considered during the Oral Hearings. It is acknowledged that the unhappy fact of Dr. O'Hara's death will impact upon this aspect of the Inquiry and will have to be considered during the Oral Hearings.

Medical Certificate of Cause of Death

Process

316. On 4th May 2000, Dr. Dara O'Donoghue signed and issued a Medical Certificate of Cause of Death (MCCD - colloquially known as a "death

390 Ref: 250-003-118
391 Ref: 013-017-056
392 Ref: 250-003-142
393 Ref: 250-003-118
394 Ref: 250-003-118
395 Ref: 250-003-140

certificate") for Lucy. The process by which that was able to happen is not clear.

317. Under Article 25 of the Births and Deaths Registration (Northern Ireland) Order 1976:

> *"(2) Where any person dies as a result of any natural illness for which he has been treated by a registered medical practitioner within twenty-eight days prior to the date of his death, that practitioner shall sign and give forthwith to a qualified informant a certificate in the prescribed form stating to the best of his knowledge and belief the cause of death, together with such other particulars as may be prescribed.*
>
> *(3) A registered medical practitioner shall not give an informant a certificate under paragraph (2) if:*
>
> *(a) he or any other person has referred the death of the deceased person to the coroner under section 7 or 8 of the Coroners Act (Northern Ireland) 1959 or he intends so to refer the death"*

318. Lucy's death certificate itself stated:

> *"To be signed by a Registered Medical Practitioner WHO HAS BEEN IN ATTENDANCE during the last illness of the deceased person and given to some person required by Statute to give information of the death to the Registrar."*[396]

319. Dr. O'Donoghue states in his statement to the PSNI that he accompanied Dr. Crean on his ward round at about 09:00 on 13th April 2000 and that it was his common practice to have checked on Lucy's condition and treatment upon admission by referring to the transfer letter and consulting the clinical notes to update himself on her clinical course since admission to PICU.[397] Prior to issuing the death certificate, Dr. O'Donoghue therefore claims that he was aware of Lucy's condition and its development during her admission at both the Erne Hospital and PICU.

320. However, Dr. Hanrahan states that Dr. O'Donoghue "*may not have treated Lucy*",[398] although his signature does appear to be on entries on both the drug prescription chart[399] and the fluid prescription chart.[400]

321. In addition, there is no note of Dr. O'Donoghue's presence on the ward rounds of either Dr. Crean on 13th April 2000 or of Dr. Chisakuta on 14th April 2000. He is also not mentioned by Dr. Chisakuta in his list of those who attended his ward round.[401]

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396 Ref: 013-008-022
397 Ref: 115-036-002
398 Ref: WS-289/1, p.19
399 Ref: 061-024-078
400 Ref: 061-002-004
401 Ref: WS-283/1, p.3

322. Dr. O'Donoghue explains that he cannot recall any training advice or instruction on the completion of medical certification of death but he had previously completed a number of death certificates.[402]

323. The DHSSPS, together with the Coroners Service and the General Register Office, published "*Guidance on Death, Stillbirth and Cremation Certification*" in August 2008.[403] Although this post-dates Lucy's death, the statutory duty under Article 25 of the 1976 Order remained the same. In the section "*Who can complete the Medical Certificate of Cause of Death*?", it states:

> "*In hospital, there may be several doctors in a team caring for the patient who will be able to certify the cause of death. It is ultimately the responsibility of the consultant in charge of the patient's care to ensure that the death is properly certified. Foundation level doctors should not complete medical certificates of cause of death unless they have received training. Discussion of a case with a senior colleague may help clarify issues about completion of an MCCD or referral to a coroner.*"[404]

324. Furthermore "*a doctor who had not been directly involved in the patient's care at any time during the illness from which they died cannot certify the cause of death, but he should provide the coroner with any information that may help to determine the cause of death.*"

325. Dr. MacFaul considers that Dr. Hanrahan was responsible for the issue of the death certificate, but that it was appropriate to delegate its completion to Dr. O'Donoghue on his instruction.[405]

326. Whether someone, other than Dr. O'Donoghue, who was either more senior or involved in Lucy's case, should have completed Lucy's death certificate is an issue to be considered during the Oral Hearings.

Relevance of the Coroner

327. The Coroner refers in the text that he co-authored with Mr. Greer to:

> "*Where a medical practitioner believes a death is reportable to the coroner, a death certificate should not issue unless, having reported the death and discussed the circumstances, the coroner directs that a death certificate may be issued.*"[406]

328. The Coroner states in his Inquiry witness statement that: "*The decision about the issue of a Death Certificate was made by Dr. Hanrahan*".[407] Further, in an article by Professor TK Marshall that the Coroner provided, it states:

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402 Ref: WS-284/1, p.8 Q.10
403 Ref: 314-008-001
404 Ref: 314-008-010
405 Ref: 250-003-108
406 Paragraph 3.07
407 Ref: WS-277/1, p.7

> *"The way in which our system works in practice is best appreciated by following step by step the course of events after a sudden or violent death has occurred. In about 30 per cent of these cases, the coroner is satisfied by a doctor that the cause of death is known and that it is natural; he can then close his inquiries by issuing a burial order and sending the necessary particulars to the Register of Births and Deaths"*[408]

Further guidance can be found in a booklet produced by the Coroner's Service for Northern Ireland which explains the process by what the Coroner will do when a death has been reported.[409] The Coroner's Service has confirmed that there has been no change in protocol since 1995.[410]

329. As has already been discussed, Dr. Hanrahan had reported Lucy's death to the Coroner in accordance with his statutory duty. There was no decision by the Coroner as to what should happen in terms of an inquest and no direction from him that a death certificate could be issued. Therefore, it is unclear, in these circumstances, how Dr. O'Donoghue was able to issue a death certificate.

330. Whether the death certificate should have been issued prior to a direction from the Coroner is an issue to be considered during the Oral Hearings.

Further Information

331. The counterfoil for the Medical Certificate of Cause of Death indicates "*Yes*" to the question "*Further information offered*".[411] Mr. Alistair Butler, the Assistant Registrar General, Northern Ireland Statistics and Research Agency, has confirmed to the Inquiry that no further information was received[412] and has explained that, where the certifying doctor enters this, the onus is on him to provide the further information.[413] To assist, the General Register Office would write to the certifying practitioner seeking the information, and if no response was received, a reminder was issued after 3 months.

332. Whether further information should have been provided is an issue to be considered during the Oral Hearings.

Timing of Issue

333. Dr. O'Donoghue said in his PSNI witness statement that he believes he was contacted by a representative of the Crawford family regarding the necessity for the production of the death certificate "*for the purposes of the burial of the remains of Lucy Crawford*".[414] A burial appears to have been held on Sunday

408 Ref: WS-277/1, p.16
409 Ref: 319-095-003
410 Ref: 319-095-001
411 Ref: 319-055-002
412 Ref: 324-001a-001
413 Ref: 324-001c-001
414 Ref: 115-036-002

16th April 2000.[415] It is therefore not clear why the Crawford family's request created any pressure for the purposes of providing the death certificate, although this may refer to remains retained as part of the post-mortem examination (e.g. due to the period required for brain fixation).

334. The Royal College of Pathologists document "*Guidelines for the Retention of Tissues and Organs at Post –Mortem Examination*" states in its section for relatives:

"*If you agree to a consented post-mortem examination the doctors will issue the medical certificate of death before the post–mortem so that you can proceed with the arrangements for the funeral*".[416] (emphasis added)

"*…research has shown that up to 30% of the information on a death certificate may be wrong unless it is based on findings from a post-mortem examination. The cause of death written on the certificate can be changed later when the results of the post-mortem examination are available.*"[417]

335. The second edition of the RBHSC's "*Paediatric Medical Guidelines*" dated June 1999 state that:

"*When [the hospital post mortem] is complete, the pathologist will telephone the ward with the result and a death certificate can be issued if this has not already been done.*"[418]

336. Drs. Stewart, O'Donoghue and Hanrahan indicate that it was the practice in the RBHSC to await the preliminary autopsy results before issuing a death certificate. Dr. Elaine Hicks, Consultant Paediatric Neurologist and Clinical Director Paediatrics at the time of Lucy's death,[419] explains in her Inquiry witness statement:

"It would not be acceptable practice to await the full result as that would take many weeks and delay burial. What was usually done was that the clinician would speak to the pathologist immediately after the initial procedure to ascertain what had been found at that stage and then complete the death certificate accordingly, including initialling the box on the reverse of the form to indicate that further information might be available at a later date"[420]

337. Professor Lucas states that it is "*very irregular*" that the death certificate should follow much later after the autopsy.[421] He describes the normal course of events with a doctor writing up a natural cause of death, which is then registered officially, at which time the autopsy can go ahead. In addition, Dr.

415 Ref: 033-102-285
416 Ref: 319-025bc-015
417 Ref: 319-025bc-017
418 Ref: 319-067a-031
419 See List of Persons Ref: 325-002-001
420 Ref: WS-338/1, p.6
421 Ref: 252-003-011

Stewart, when writing the request for autopsy, left the cause of death section blank, confirming that there was not a registered or registerable cause of death documented prior to the autopsy. Professor Lucas states that to apparently wait for the autopsy and/or the autopsy report before writing the death certificate is, at least, "*inappropriate*" and possibly "*an infringement of the law*".[422] He outlines the reason for his concern:

"…it perverts the whole coronial referral system for unnatural death, for following a consented autopsy, more people (i.e. including the pathologist) could more readily conspire to hide a genuine unnatural death from public notice. The usual process - natural death certificate or referral to the coroner - makes the doctors think promptly about why someone died and what to do next. This is a very serious issue and could be examined in more detail at the hearings"[423]

338. Whether the death certificate should have been issued prior to the results of the post-mortem being available, as opposed to the system described by the RBHSC clinicians, is an issue to be considered during the Oral Hearings.

<u>*Registered Cause of Death*</u>

339. Lucy's death was certified as having been caused by: [424]

"I(a). Cerebral oedema

(b). due to (or as a consequence of) dehydration

(c). due to (or as a consequence of) gastroenteritis."

However, there were no pathological signs of gastroenteritis found at post mortem, although the autopsy report does note that clinical samples were positive for enterovirus on a number of occasions.[425]

340. It would appear from the entry made in the notes by Dr. O'Donoghue that he completed the death certificate after considering the provisional anatomical summary and after holding conversations with Dr. Hanrahan and Dr. Caroline Stewart.[426]

341. Dr. O'Donoghue has confirmed that he asked for advice from his consultant, Dr. Hanrahan, before completing the death certificate:

"At the time that the death certificate was completed, I was aware that Lucy had cerebral oedema. I was also aware that she had been dehydrated as a result of having had gastroenteritis. I sought advice from the Consultant Paediatric Neurologist and

422 Ref: 252-003-011
423 Ref: 252-003-011
424 Ref: 013-008-022
425 Ref: 061-009-016 & 027-011-027
426 Ref: 061-018-068

accepted his advice that the cerebral oedema was due to or in consequence of dehydration."[427]

342. Dr. O'Donoghue adds that, since completing the death certificate:

"At a later date, as a result of increasing information available on the risks of the use of No. 18 solution, I became aware that the cerebral oedema occurred as a result of inappropriate prescribing of No. 18 solution rather than as a result of dehydration."[428]

343. Dr. Hanrahan cannot recall a conversation with Dr. O'Donoghue but "*it is possible that I suggested following the post-mortem report in filling out the death certificate.*"[429] He has since conceded that:

"*The death certificate did not reflect the true chain of events in Lucy's death. I believe, in the absence of information about the real degree of Lucy's hyponatraemia, that I relied too readily on the result of the post-mortem in advising Dr. O'Donoghue what to include on the certificate*."[430]

344. As will be seen later in this Opening, both Dr. MacFaul and Professor Lucas explain that Dr. O'Donoghue's death certificate entry was *"illogical"*[431] as cerebral oedema cannot be "*due to (or as a consequence of) dehydration*". In those circumstances, it is an issue to be considered during the Oral Hearings as to how it could have been considered that the aetiology set out in the death certificate was accurate or appropriate.

345. It is not known whether the cause of death as certified was supplied to the Sperrin Lakeland Trust.

346. Whether the death was accurate, and the effect that a differently formulated death certificate may have had are issues to be considered during the Oral Hearings.

Meetings with the Crawford family

347. Dr. Hanrahan wrote to the parents on 16th May 2000[432] inviting them for a meeting in which he states it might be better to wait until he had the results of the autopsy. In the event, he saw them on 9th June i.e. before the final autopsy report.[433] The hand written entry relating to the meeting with the parents records:

427 Ref: WS-284/2, p.2 Q.2(b)
428 Ref: WS-284/2, p.3 Q.2(c)
429 Ref: WS-289/1, p.20 Q.19((f)(i)
430 Ref: WS-289/1, p.26
431 Ref: 252-003-011; Ref: 250-003-007
432 Ref: 061-010-034
433 Ref: 061-018-069

"*they have met Dr. O'Donohoe who did not have the notes. I went over the events concerning Lucy's death and encouraged them to attend Dr. O'Donohoe to clarify events in the Erne Hospital. I will see them again if required.*"

348. Dr. Hanrahan recalls that Lucy's parents were unhappy about her treatment in the Erne Hospital but he did not document the concerns. Dr. MacFaul states that this should have been done in order to comply with good standards of record keeping.[434] Dr. Hanrahan does not remember what he told Mr. and Mrs. Crawford but he states that he encouraged them to clarify events in the Erne Hospital with Dr. O'Donohoe because:

"*the sentinel event had occurred in the Erne Hospital, when Lucy collapsed. She was brain dead on arrival in Belfast. The events that led to her death, therefore, took place locally and I believe that Dr. O'Donohoe should have been involved in the explanation to Lucy's parents*."

He did not attempt to clarify events at the Erne Hospital himself.[435]

349. Dr. Hanrahan has explained the concerns that he had about events at the Erne Hospital at the time of his meeting with Lucy's parents on 9th June 2000:

"*the fluid management did appear inappropriate, both in the amount of solution 18 administered prior to Lucy's collapse and the size of the bolus of normal saline that she subsequently received. The cerebral complications were however due to hyponatraemia secondary to solution 18, the degree of which I was unaware at the time*". *[...]* "*cerebral oedema was not due to dehydration but rather to excessive rehydration leading to hyponatraemia*."

350. Unfortunately, Dr. Hanrahan did not record what he discussed with Mr. and Mrs. Crawford at their meeting on 9th June 2000, or to the extent that he had concerns about Lucy's treatment in the Erne Hospital, he failed to record what those concerns were. Whether he should have done so is a matter to be considered during the Oral Hearings.

351. Dr. MacFaul expresses the view that he cannot be certain whether these concerns reflect Dr. Hanrahan's opinion at the time and influenced his entry of dehydration in the certificate. If the concerns reflected Dr. Hanrahan's views at that time, Dr. MacFaul explains that the death certificate should not have been issued because the death was linked to treatment given[436] and, as already been mentioned, Dr. MacFaul considers that in the absence of a clear explanation for Lucy's cerebral oedema, it was incumbent on Dr. Hanrahan to report again Lucy's death to the Coroner.[437]

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434 Ref: 250-003-116 & General Medical Council Good Medical Practice 1998 (applicable at the time revised 2001) Para 3

435 Ref: WS-289/1 Q14, p.15 Q.14(d)

436 Ref: 250-003-116

437 Ref: 250-003-140

352. In addition, Dr. MacFaul queries how Dr. Hanrahan explained to Lucy's parents that cerebral oedema had led to Lucy's death, without mentioning the possibility of either low sodium or brain infection.[438] In Dr. MacFaul's words, *"otherwise how did he explain it?"*

353. On 14th June, Dr. Hanrahan contacted Dr. O'Donohoe to confirm that he would see Mr. and Mrs. Crawford again.[439] He agreed to do so after he had obtained the post mortem report. However, for reasons that have not been explained, he did not meet with them again.[440]

354. There is a suggestion in a time line provided to the Inquiry by Mr. Mills that, on 16th June, Dr. O'Donohoe met Dr. Hanrahan in Belfast for the purposes of discussing the post-mortem report.[441] However, Dr. O'Donohoe has no recollection of such a meeting taking place[442] and there is otherwise no record of it having occurred as far as the Inquiry is aware.

355. Dr. O'Hara met with Lucy's parents and Mr. Stanley Millar[443] on 16th June 2000 to discuss his findings with them.[444] Notes made by Mr. Millar suggest that Dr. O'Hara raised concerns about aspects of Lucy's care at the Erne Hospital:

"The PM was not under the Coroners Act

The cause of death is less frequent than in years past and would not be common

Lucy probably died in Erne …

Dehydration was an important factor

Children can 'crash' very quickly due to dehydration and delay in getting in fluids could be crucial …

Dr. O'Hara conducted the PM at the request of Dr. Hanrahan …"

356. Professor Lucas comments on the 'delay point' in his report observing that it indicates that Dr. O'Hara was still thinking about the case and that he had *"identified a circumstance that certainly should have prompted consideration of inappropriate medical treatment, and perhaps a referral to the coroner in retrospect"*.[445]

357. The actions of Dr. O'Hara, Dr. Hanrahan and Dr. O'Donohoe in relation to their meetings with Lucy's parents will be examined during the Oral

438 Ref: 250-003-140
439 Ref: 061-018-069. At WS-278/1, p.9 Dr. O'Donohoe confirms that he spoke to Dr. Hanrahan as described.
440 Ref: WS-278/1, p.14
441 Ref: 030-007-012
442 Ref: WS-278/2, p.5
443 See List of Persons Ref: 325-002-001
444 Ref: 015-006-031
445 Ref: 252-003-010

Hearings to the extent that it will be considered whether the clinicians gave sufficient thought to the issues in her case, particularly her cause of death and fluid management, and whether they properly disseminated further any concerns that they had.

Responsibility for Lucy's Case

358. There is an issue to be explored during the Oral Hearings as to who was responsible for Lucy's case at the RBHSC during and, particularly, following her death. That person would be responsible for:

(i) Liaising with the parents, the Coroner, the pathologist and the referring hospital;

(ii) Completion of the discharge letter;

(iii) Completion of the death certificate;

(iv) Reporting internally;

(v) Organising the audit

(vi) Ensuring that the death was properly discussed at mortality/audit meeting

359. On the hospital administrative forms[446], Lucy was admitted to PICU under the care of Dr. Crean. The nursing record[447] shows consultants Dr. Crean and Dr. Hanrahan. On the laboratory request forms for 13th April and 14th April[448], the consultant listed is Dr. McKaigue.

360. In his witness statement for the Inquiry in Claire Roberts' case, Dr. Crean explained that in 1996, and for several years afterwards, his name appeared on all hospital admission slips for children admitted directly to PICU at the RBHSC for 'administrative reasons' and irrespective of whether he had any direct involvement in their care.[449]

361. Dr. Crean in his PSNI witness statement explained that the Consultants in PICU might change on a daily basis, but that the junior staff during the day are permanently attached.[450] He considers that, at the time of Lucy's admission, Dr. McKaigue was in charge of the unit (as he had been overnight), and that he then took over responsibility at approximately 08:30.

446 Ref: 061-001-001, 061-013-037
447 Ref: 061-025-083
448 Ref: 061-033-099
449 Ref: WS-168/2, p.12
450 Ref: 115-029-002

362. Dr. Crean considers that Dr. Hanrahan was the clinician in charge of Lucy's case[451] and that Dr. Hanrahan had responsibility for presentation of Lucy at the audit meeting.[452]

363. Dr. Hanrahan indicates that he was unsure of who was in charge of Lucy's care when she was a patient in PICU. When asked to explain the absence of a discharge letter in Lucy's case, he explained that it was "*not clear to me that I was the responsible consultant and I may have believed that I was only involved in a consultative role"* and does not "*recall formally assuming responsibility.*"[453]

364. In Claire Roberts' case, Dr. Heather Steen, Consultant Paediatrician at the RBHSC, stated that:

> *"Until it's formally taken over and there's a formal transfer, and [the other consultant] and I discuss it, I remain the named consultant."*

365. Dr. MacFaul, commenting on the issue of consultant responsibility in Claire's case, stated that:

> *"A consultant takes responsibility for all patients admitted under their care either by planned or acute admission and then responsibility for continuing care of patients admitted on their day on-call for on-going care during that admission and the subsequent follow-up."*[454]

366. Dr. MacFaul, having reviewed the papers and statements in Lucy's case, considers that in life, Drs. Hanrahan, Crean and Chisakuta were jointly responsible for Lucy's care.[455] He considers that Drs Crean and Chisakuta were responsible for her stabilisation and withdrawal of therapy after brainstem tests. However, he considers that responsibility for her diagnostic care, and continuity of care, rested with Dr. Hanrahan. In addition, he believes that Dr. Hanrahan was responsible for the post-death management.

367. Dr. MacFaul also considers Dr. Hanrahan to have been responsible for the content of the issued death certificate, particularly as he was in receipt of the provisional anatomical summary.[456] In his report, Dr. MacFaul accepts that Dr. Hanrahan's conclusion that Lucy's low serum sodium was insufficient in severity to cause her cerebral oedema was "*reasonable given the knowledge of the time*".[457] However, he points out a number of shortcomings in Dr. Hanrahan's handling of Lucy's death:[458]

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451 Ref: WS-292/2, p.4 Q.5
452 Ref: WS-292/2, p.3 Q.1 & 2; p.3 Q.4(c); p.4 Q.5; p.6 Q.9; p.7 Q.10(f) & Q.11
453 Ref: WS-289/2, p.2 Q 2
454 Ref: 238-002-106
455 Ref: 250-003-019
456 Ref: 250-003-007
457 Ref: 250-003-007
458 Ref: 250-003-007

(i) Dr. Hanrahan was not aware at the time that a rapid fall in blood sodium could cause cerebral oedema regardless of the absolute level. This is a "*notable deficit of knowledge*"[459] for a paediatric neurologist who was involved in the care of patients on an intensive care unit e.g. for management of acute encephalopathy complicated by SIADH.

(ii) In the light of the uncertainty on cause of death, not resolved by the preliminary autopsy report, Dr. Hanrahan should have referred again to the Coroner and thus not advised that a death certificate be issued.

(iii) He did not review the case records and fluid regime and did not appreciate the volume overload with hypotonic fluid.

(iv) He did not consider that Lucy's level of hyponatraemia could be a sign of the fluid overload nor take account of the weight gain.

(v) He did not consider that the severity of hyponatraemia at the time of Lucy's collapse could have been greater than was measured after the high volume of normal saline had been given.

(vi) The link between dehydration with cerebral oedema was "*illogical*"[460], unless Dr. Hanrahan considered that it was the <u>treatment</u> of the dehydration which had caused the cerebral oedema.

(vii) The content of his discussion with Lucy's parents on 9th June 2000 was not recorded and this was therefore not in keeping with good practice guidance at the time.[461]

(viii) He did not send a discharge letter to Lucy's GP or to the Erne Hospital, summarising his views and actions.

(ix) He did not review the final autopsy report (a "*striking*"[462] omission) and he did not prepare for, or attend, the audit mortality meeting in August 2000 when Lucy was discussed.

368. Dr. MacFaul is also critical of Dr. Crean, under whom Lucy had been admitted to the PICU of RBHSC:

(i) He did not share his knowledge[463] of the link between dilute fluids, hyponatraemia and cerebral oedema with Dr. Hanrahan, nor did he discuss with Dr. Hanrahan how hyponatraemia and cerebral oedema could have developed in Lucy during her treatment in the Erne Hospital.

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459 Ref: 250-003-148
460 Ref: 250-003-007
461 Ref: 250-003-018 & General Medical Council Good Medical Practice 1998 (applicable at the time revised 2001) Para 3
462 Ref: 250-003-018
463 Ref: WS-292/1, p.7 Q8(b) & WS-292/2, p.4 Q5

(ii) He did not consider that the severity of hyponatraemia at the time of Lucy's collapse could have been greater than was measured after the high volume of normal saline had been given.[464]

(iii) He did not prepare for, or attend, the audit mortality meeting in August 2000 when Lucy was discussed.

369. What the clinicians should have realised, investigated or done in respect of Lucy's case so that lessons could have been learnt is an issue that will be considered during the Oral Hearings.

XV. Response to Lucy's Death by the RBHSC

Adverse Incident Reporting Framework

370. As Dr. MacFaul observed in his report in Claire Roberts' case:

"Significant clinical incident and adverse outcomes should be reported within a Trust's structure. The first stage of any such process however is recognition of the event in the first place."[465]

371. The Trust Health and Safety Policy[466] dated November 1993 mainly concentrated on the health and safety of staff and compliance with health and safety regulation in respect of non-clinical events. The later revision, dated October 1998, added in a '*Clinical Risk Management Group'*, which identified key areas of "*clinical audit, research register, untoward incident reporting (clinical), medical negligence and complaints*".

372. The "*Risk Management Strategy*"[467] dated February 1997 referred to incident reporting and investigation, as an element of risk management.

373. The Trust's '*Clinical Governance Framework*' dated April 1999 identified the need to develop quality systems to maintain the quality of clinical services.

374. The Trust had an "*Adverse Incident Reporting*"[468] (Policy TP9/00) dated May 2000 – just after Lucy died, but before her death was reviewed at the mortality audit. The policy was signed by Mr. William McKee[469], Chief Executive. This Policy defines an adverse event as:

"*any unexpected or untoward event that has a detrimental effect on an individual patient…This definition includes near miss reporting. Events relating to clinical treatment and outcomes, patient care…are covered by this policy. Incident and near*

464 Ref: 250-003-104
465 Ref: 238-002-067
466 Ref: WS-061/2 from p.232
467 Ref: WS-061/2 from p.222
468 Ref: 319-021e-001
469 See List of Persons Ref: 325-002-001

miss reporting can be used as a means of identifying the risks to which patients, staff and members of the public may be exposed." It provides that "*All staff must report adverse events as outlined in the procedure for adverse events reporting*."

375. The Trust's "*Procedure for Adverse Incident Reporting*"[470] defines an adverse incident as:

"*any unexpected or unplanned incident that has a short or long term detrimental effect on patients…which results in material loss or damage, loss of opportunity or damage to reputation. This definition includes "near miss" reporting."*

376. It is notable that this procedure used different nomenclature and definition to the policy above. At paragraph 3.1, the policy also states "*Document fact only, not opinion*". Provision is made for incidents to be graded as major, moderate, minor, insignificant, or near miss.[471] 'Major' is defined as "*Life threatening, long term significance to person, outcome could have serious outcome for persons*".

377. Dr. Crean has said that, while adverse incident reporting was introduced to the Trust in 2000, it was only rolled out over the following two years and was not "*fully embedded in practice"*[472] at the time of Lucy's death.

378. The Inquiry has been informed by the DLS that Lucy's death was not reported under the Adverse Incident Reporting policy.[473]

Critical Incident Review Group

379. A 'Critical Incident Review Group' was a multi-disciplinary group set up in about March 2000 that met weekly during which it *"reviewed most of the critical incidents reported weekly in RBHSC, with a view to identifying lessons learnt and disseminating these lessons in RBHSC, and the rest of the Trust via Risk Management Directorate"*.[474] Dr. Anthony Chisakuta, a consultant in Paediatric Anaesthesia, was a member of it from March 2000 to August 2010 and describes his role as *"to bring a medical perspective to the deliberation on critical incidents, with a view to learning lessons"*.[475] He attended the weekly meetings and is of the view that Lucy's death was not reported to it as no critical incident form was completed.[476] Dr. Chisakuta explains the possible reasons for this in his Inquiry witness statement:

"It was not our role in the Critical Incident Review Group to decide what constituted a critical incident … I would observe however that it appears that if there was a 'critical incident' in this case, it might be deemed to have happened in the Erne

470 Ref: 319-021f-001
471 Ref: 319-021f-002
472 Ref: WS-292/2, p.6; WS-292/1, p.9 Q15
473 Ref: 319-022a-001
474 Ref: WS-283/2, p.2
475 Ref: WS-283/2, p.2
476 Ref: WS-283/2, p.4

Hospital rather than the RBHSC, so that might have affected whether or not it was treated as a critical incident within the RBHSC"[477]

380. Whether such an approach, in the absence of knowing that the 'critical incident' will be investigated in the referring hospital, creates a lacuna in governance for such cases will be pursued during the Oral Hearings.

381. The Inquiry Legal Team requested all documents relating to the creation of the Critical Incident Review Group, including its membership, its role and responsibilities, and for the minutes of this group for the year 2000. The Trust "*has not located any documents regarding the creation of (the group) its role, membership, or responsibilities*". It "*understands that no minutes were kept …A former member of the group has advised that any actions, findings, or lessons learned were written on the back of the IR1 Incident report Form that was reviewed by the Group."*[478]

382. There is no evidence that Lucy's death was registered as an untoward clinical incident, or that an internal review was undertaken. Whether either should have taken place is a matter to be considered during the Oral Hearings.

Audit & Mortality Meeting Procedure

383. Dr. Robert Taylor was co-ordinator of the audit programme in the RBHSC, and had been since December 1996. He would therefore chair the mortality section of such Audit meetings.[479]

384. As audit coordinator, he explains he was responsible for ensuring that clinicians were given the opportunity to present clinical audit projects that they had completed at monthly audit meetings[480] and that "*the goal of these meetings was to discuss every child's death for learning purposes among the clinicians present*."[481] Dr. Taylor points out that it was not his role to investigate deaths in children, as this would be a Trust matter. [482]

385. Every death was discussed in these meetings. The meetings were organised by the PICU /Audit secretary who would assemble the papers, identify the responsible lead consultants and a pathologist (if a post-mortem had been done) and schedule their attendance when they would answer any questions raised by the clinicians present.[483]

386. The process for the mortality review was as follows:

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477 Ref: WS-283/2, p.3
478 Ref: 319-025ba-001
479 Ref: WS-157/2, p.7
480 Transcript of the Oral Hearings, 11th December 2012, p.134
481 Ref: WS-280/1, p.2
482 Ref: WS-280/1, p.2
483 Ref: WS-157/2, p.7

"Each case presentation could have a time limit and the consultant supervising the case should have the opportunity to express problem areas in the management of the case and in a non-hostile environment and those presenting cases should indicate to Dr. Taylor how long they will require."[484]

387. Dr. Taylor would expect whoever presented the clinical records to have worked their way through the clinical notes before the meeting in order to inform the presentation.[485] As was discussed earlier in this Opening, it was not usual practice for the complete medical records from other hospitals to be transferred with the patient to the RBHSC but summary records, x-rays and investigations would be included.[486]

388. It was the expectation that, for each death, all relevant materials would be presented - "*the mortality meeting was not minuted so that clinicians could speak openly.*"[487] Any questions raised by others present would be addressed.

389. Dr. Taylor states: "*the mortality section of audit is not an audit of the clinical records, it is not an investigation of the death: it is a review following the completion of any investigation that has been undertaken and the finality is presented to the consultants for the purposes of learning from that death.*" [488]

390. Further, it is "*not an examination of the death; it's a review of the cause of the death in the Children's Hospital so that the doctors may learn that the case has been concluded and this is the final outcome of the cause of death. That helps to educate the doctors present that a child with diabetes or hyponatraemia has died within the hospital.*" [489]

391. Dr. MacFaul states that the account given by Dr. Taylor in attempting to distinguish an investigation of a death seen as an adverse event from the more regular mortality meetings is, in his opinion, "*somewhat difficult to follow logically*".[490]

392. Whether Lucy's case, as one in which the death remained unexplained and which may have occurred as a result of treatment, should have been identified for formal investigation by the Trust will be a matter to consider during the Oral Hearings.

393. Dr. Taylor cannot recall any procedure for disseminating results learned from the death of a child to clinicians other than among those who attended a specific meeting[491], although some things did change as a result of the mortality meetings e.g. after several cases of meningococcal disease,

484 Ref: 305-011-591
485 Transcript of the Oral Hearings, 11th December 2012, p.123
486 Transcript of the Oral Hearings, 19th April 2012, p.11
487 Ref: WS-157/2, p.7 Q.25(b)
488 Transcript of the Oral Hearings, 11th December 2012, p.134
489 Transcript of the Oral Hearings, 11th December 2012, p.134
490 Ref: 250-003-136
491 Ref: WS-280/1, p.5 Q.3(r); WS-280/2, p.2 Q.2

guidelines were issued because items were identified following mortality reviews and triggered this action.

Lucy's Mortality Meeting

394. There is evidence that Lucy's death was discussed at the mortality section of the monthly RBHSC Audit meeting on 10th August 2000.[492] The minutes[493] record that five cases were presented in the mortality section and discussed. On what is described as a "*redacted audit list*"[494], Lucy's name, date of death, and hospital number are listed, and the detail "*ICU Dr Crean*" and "*PM Dr O'Hara Lucy 2518 9/6 not complete*".

395. Unfortunately, the audit department has no documentation touching upon the mortality section of the audit meeting.[495] It is therefore not evident what conclusions were drawn.

396. The attendance list[496] notes 34 attendees, including consultants, registrars and SHOs both in medical and surgical specialties. Dr. Taylor, Dr. McKaigue, and Dr. Hicks are listed. There is no indication that Dr. Hanrahan, Dr. Stewart, Dr. Crean or Dr. O'Hara were present. It is not evident who presented Lucy's case in the absence of the relevant consultants. The only person on the list who was involved in Lucy's care at RBHSC is Dr. McKaigue.

397. It may be relevant to note that Dr. Elaine Hicks' name is on the list. As has been referred to above, she was not only a Consultant Paediatric Neurologist at the time, she was also the Clinical Director of Paediatrics in the Trust.

398. In response to a further query from the Inquiry on 11th March 2013, the DLS have stated that there are no Trust records to confirm what steps were taken to contact the responsible consultant and pathologist to attend the audit meeting.[497] Moreover, the Trust is unable to confirm whether Dr. Crean and Dr. O'Hara attended. No other records were made of the meeting than those provided.

399. Dr. Taylor has no memory of the issues discussed and cannot recall if any conclusions were reached. He was not aware if there were any communications or discussions with Erne Hospital staff nor aware of any changes which occurred in the audit process following her inquest as he was no longer chair or paediatric audit coordinator after January 2003.

400. Dr. Hanrahan confirms arrangements as described and thought Lucy's death was discussed at a mortality meeting. He believes that Dr. O'Hara was likely

492 Ref: 061-038-123
493 Ref: 319-023-004
494 Ref: 319-023-003; 319-024b-001; 319-023-004; 319-023-005,
495 Ref: 319-023-001
496 Ref: 319-023-003
497 Ref: 319-024b-001

to be present at the meeting. He cannot recall whether he provided any information to the meeting.[498]

401. Dr. MacFaul believes that the processes usually adopted in RBHSC were not used in the mortality meeting in which Lucy was discussed and criticises the process as follows: [499]

(i) Dr. Hanrahan and/or a member of his team should have been present when Lucy was discussed.

(ii) Dr. O'Hara should have been present, as he might have identified points about care which he had previously raised at the meeting with Lucy's parents.

(iii) The apparent non-presence of Lucy's lead consultants Dr. Crean and Dr. Hanrahan makes it doubtful that Lucy's case was presented in detail.

402. Dr. MacFaul considers that a proper review at the meeting may have allowed the opportunity to:[500]

(i) Recognise the excessive volume of fluids used at the Erne Hospital

(ii) Question whether the level of hyponatraemia recorded at the Erne Hospital could have been more severe because of the administration of a large volume of normal saline

(iii) Identify that the autopsy report did not properly identify the cause of the cerebral oedema or her death.

(iv) Review the issue and content of the death certificate and challenge the "*flawed*" logic of the pathogenesis.

403. There do not appear to be any written conclusions reached concerning Lucy's treatment nor is it clear that Lucy's death was accurately recorded on the Paediatric Intensive Care computer database.

404. Dr. James McKaigue suggests that Lucy's case may have been referred to in a meeting of Paediatric Anaesthetic group in Northern Ireland held on 26th November 2001. There is no evidence of further learning from this.

405. It is an issue to be considered during the Oral Hearings as to whether Lucy's death was adequately scrutinised at the mortality / audit meeting in the RBHSC in August 2000, whether it was attended by all the relevant clinicians (including the pathologist), whether Lucy's case should have been discussed

498 Ref: WS-289/1, p.22 Q.24 & Q.25
499 Ref: 250-003-136
500 Ref: 250-003-019

further, and whether the procedure in place for audit or reviewing mortality cases was appropriate, both in this case and in general.

Knowledge of Senior Management and Boards

406. The Trust's Medical Director, Dr. Ian Carson[501] states that it was his expectation that if the Coroner was notified about a death, Dr. Murnaghan or Mr. Walby should be informed by the responsible consultant. There is no record that Dr. Hanrahan took this step[502] and Dr. Carson cannot recall being notified of Lucy Crawford's death at the time.[503]

407. There is no evidence that Lucy's death was reported by the RBHSC to the Trust Board or any Health Board who commissioned services. In his evidence to the Inquiry during the Oral Hearings on 17th January 2013, Mr. William McKee, Chief Executive, believed that, in law, neither the Trust Board nor he had responsibility for the healthcare and the quality of healthcare given to patients in the hospital until 2003.

408. However, Professor Scally, in his report to the Inquiry, considers that:

"Either, or both, of the two Trusts involved in the care of Lucy Crawford could reasonably be expected to have notified the DHSSPS if they felt that the death was potentially due to inadequate treatment."[504]

409. It will be considered during the Oral Hearings whether the clinicians at the RBHSC should have communicated the information about Lucy's death further up the clinical and management hierarchy, and the effect this may have had.

Discharge Letter

410. The Inquiry Legal Team asked the Belfast Trust through the DLS for any policy, protocol or guidance existing in 2000 regarding communication between the RBHSC PICU and the referring hospital when a transferred patient dies.[505]

411. In reply, the DLS advised that **"***The Trust believes ...the referring team would have been made aware of the death through informal communications by telephone which took place between the referring hospital and PICU (usually these consisted of regular enquiries being made by the referring hospital to ascertain the patients clinical course)***"** And further **"***There would have been a letter from one or more consultants back to the referring hospital giving clinical information when a patient died.*[506]

501 See List of Persons Ref: 325-002-001
502 Ref: WS-306/1, p.3 Q.1(e)
503 Ref: WS-077/1, p.2
504 Ref: 251-002-015
505 Ref: 319-018-001
506 Ref: 319-021-001

412. There is no discharge letter in Lucy's case notes and there is no evidence of any written correspondence having been sent by the RBHSC consultants to the Erne Hospital. The DLS have informed the Inquiry that the Trust cannot locate such a letter.[507] When asked to clarify whether such a letter was ever issued, they said:

"*all discharge letters are filed with the patients casenotes …there is a possibility that the letter could have been misfiled. It is also possible that no discharge letter had ever been issued.*"[508]

413. The DLS have further advised that:

"*It is the Trust's understanding that Sperrin Lakeland would have been aware of Lucy's death via a telephone conversation. However this has not been documented in the RBHSC casenotes. You will note however that there is an entry contained in the Erne Hospital notes (at 027-010-025) dated 18/4/2000 and timed at 09.10) which would suggest that communication had indeed taken place.*"[509]

414. The Inquiry Legal Team also asked Drs. Hanrahan, Crean and O'Donoghue if they had written a discharge letter. Drs. Hanrahan[510] & O'Donoghue[511] do not believe they wrote a discharge letter. Dr. Crean says that it was not his practice as a consultant anaesthetist to write discharge letters,[512] and that this would have been the responsibility of the consultant paediatrician or surgeon in charge of the case. The issue of who had responsibility for Lucy's care had already been discussed earlier in this Opening.

415. Dr. Crean has said in an Inquiry Witness Statement that "*a hospital discharge summary from PICU would be completed if a child [...] died.*"[513]

416. Dr. MacFaul considers the failure to send a discharge letter to either Lucy's GP or the Erne Hospital as the referring hospital to have been a "*significant deficiency*"[514] and that this was the responsibility of Dr. Hanrahan. This is because such a letter offers an opportunity for the treating team to review management of a particular case when composing the letter, usually produced a few days after the discharge, when results of tests are available which might not have been at the time of discharge. The letter may be written by a consultant or registrar and should include some detail of the presentation, investigation, treatment and diagnosis.

417. Professor Scally, in his report for the Inquiry, agrees that the RBHSC should have informed the Sperrin Lakeland Trust in a formal manner and that this

507 Ref: 319-014-001
508 Ref: 319-016-001
509 Ref: 319-022a-001
510 Ref: WS-289/1, p.21
511 Ref: WS-283/1, p.11
512 Ref: WS-292/1, p.8
513 Ref: WS-168/2, p.12 Q.55
514 Ref: 250-003-117

requirement arises out of a general obligation in the case of a death that may have been caused by inadequate treatment and "*is reinforced by the RBHSC role as a regional centre of excellence*".[515]

418. There is therefore an issue to be considered during the Oral Hearings as to why the RBHSC did not send the Sperrin Lakeland Trust a formal discharge letter, whose responsibility that would have been, and whether such a latter may have prompted further investigation or dissemination of Lucy's case.

Communication with the Sperrin Lakeland Trust

419. In addition to the above, there appears to have been little communication between hospitals and professionals following Lucy's death. There is no evidence that there was communication by the RBHSC with the Erne Hospital in respect of an investigation into Lucy's treatment.

420. At RBHSC, despite concerns relating to hypotonic fluid administration, neither Dr. Crean nor Dr. Hanrahan fed these concerns back to Dr. O'Donohoe after Lucy's death.[516] As has been noted, and will be discussed later in this Opening, Dr. Crean did contact Dr. O'Donohoe on 13th April 2000 regarding Lucy's fluids. At some point following Lucy's death, Dr. Crean also discussed his concerns with Dr. McKaigue, who had admitted Lucy to PICU.[517]

421. Despite the Sperrin Lakeland Trust establishing a review of Lucy's care (as shall be seen later in this Opening), it does not seem that there was any communication from the Erne Hospital clinicians or the Trust to the RBHSC.

422. Professor Scally considers that the Sperrin Lakeland Trust and the Royal Group of Hospitals Trust should have jointly:[518]

(i) Reported Lucy's death to the DHSSPS

(ii) Advised the Coroner that there were potential concerns about the treatment provided.

423. At the Oral Hearings, consideration will be given as to whether there should have been further communication regarding Lucy's case between the RBHSC and the Sperrin Lakeland Trust, and whether this discussion may have prompted further investigation or dissemination of Lucy's case.

515 Ref: 251-002-017
516 Ref: WS-292/1, p.7 & WS-289/2, p.4
517 Ref: WS-302/2, p.2
518 Ref: 251-002-006

XVI. Response to Lucy's Death by the Sperrin Lakeland Trust

Initial Concerns

424. At the Oral Hearings, it will be important to identify the opportunities which were available to the Sperrin Lakeland Trust ("the Trust") to promptly and accurately identify the reason(s) for Lucy's unexpected deterioration and death, whether those opportunities were properly exploited or whether they were squandered.

425. The Trust's ability to arrive at a proper understanding of the circumstances of Lucy's death depended, in part, on the flow of relevant information. It appears that, even before Lucy's death was formally declared at the RBHSC, information was being passed to the Erne Hospital which raised concerns about Lucy's management in that Hospital.

426. Dr. O'Donohoe has recalled that, on the morning of 13th April 2000, he received a telephone call from Dr. Crean.[519] Dr. O'Donohoe states that he has *"no specific recollection of the contents of that conversation"* but that, in general terms, Dr. Crean suggested to him "*that the fluids and quantities*" which Lucy had received *"were different from those that I had instructed to be given."*[520]

427. From this point – but apparently not before this point – Dr. O'Donohoe was "*concerned*". He has stated that, arising out of Dr. Crean's call, he went, located Lucy's notes and faxed a copy of the fluid administration sheet to Dr. Crean. It is unclear whether this was a separate fax to that in which many of Lucy's Erne Hospital notes were faxed to RBHSC PICU or not. It appears that Dr. Crean must have had the notes by this time; otherwise he would not have been in a position to discuss specific details of Lucy's fluid management.[521]

428. Dr. Crean cannot recall any details about this conversation, or even whether it took place.[522]

429. Dr. MacFaul has expressed the concern that Dr. O'Donohoe may not have accurately accounted to Dr. Crean for the actual volume of fluids which Lucy had received.[523]

430. Dr. O'Donohoe read the fluid administration sheet for himself and discovered that Lucy's fluids were recorded as 100ml/hr just as Dr. Crean had indicated. In fact, he has recalled that he *"read and re-read Lucy's notes"* because he was *"concerned about the quantity of fluids actually infused"*. He does not say that he was concerned about the *type* of fluid infused.

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519 Ref: WS-278/2, p.2
520 Ref: WS-278/1, p.4
521 Ref: WS-278/1, p.5
522 Ref: WS-292/1, p.5
523 Ref: 250-003-063, para 276

431. Such was Dr. O'Donohoe's concern about the issue raised by Dr. Crean that he recalls reporting his contact with Dr. Crean to the Trust's Medical Director, Dr. James Kelly. He also discussed the circumstances of Lucy's treatment and asked for the episode to be *"examined under the heading of critical incident"*.[524] He states that he did so because *"Lucy had deteriorated and subsequently had died unexpectedly"*.[525] Dr. O'Donohoe has indicated that he was concerned *"that Lucy had been given more fluid than I had instructed to be given"*.

432. Having formed the view at some point on 13th April that Lucy had received a greater quantity of fluids than had been intended, Dr. O'Donohoe might have taken steps to apprise the clinicians at the RBHSC. However, there is no indication in the documents available to the Inquiry that the matters which were causing him concern were ever brought to the attention of those clinicians at the RBHSC where Lucy was being treated. It is also clear that they were not brought to the attention of the Coroner.

433. In an interview with the PSNI on 6th April 2005, Dr. Kelly has outlined his recollection of his conversation with Dr. O'Donohoe:

> *"Dr. O'Donohoe contacted me by telephone on either Thursday 13th of April….or on the morning of the Friday 14th of April 2000. Dr. O'Donohoe explained he wanted to apprise me of the events surrounding a child who had been admitted to the Paediatric Ward of the Erne Hospital on 12th of April. Dr. O'Donohoe outlined that he was raising this under Critical Incident Reporting. Dr. O'Donohoe informed me that the child had been admitted with diarrhoea and vomiting and had subsequently suffered an unexplained collapse requiring resuscitation and incubation (sic)….Dr. O'Donohoe said he was not sure what happened stating there may have been a misdiagnosis, the wrong drug had been prescribed or the child had an adverse drug reaction. Dr. O'Donohoe explained that there had been some confusion over fluids…."*[526]

434. The suggestion that Dr. O'Donohoe may have reported the incident to Dr. Kelly on 13th April is not supported by the official findings of the Trust's review which found that Dr. O'Donohoe's report to Dr. Kelly was made on 14th April 2000.[527] There is, however, a time line on a file produced by Mr. Mills containing key dates which states that Dr. O'Donohoe "*informed Dr. Kelly of tragic events*" on 13th April.[528] However, this document may not be accurate as it erroneously states that Lucy was declared dead on 13th April.

435. It is also notable that Dr. Kelly did not indicate to the PSNI any knowledge of the conversation between Dr. O'Donohoe and Dr. Crean. Moreover, his reference to *"some confusion over fluids"* appears to suggest either that Dr. O'Donohoe was not in a position to state with certainty that there had been

524 Ref: WS-278/1, p.5
525 Ref: WS-278/1, p.6
526 Ref: 116-043-002
527 Ref: 033-102-264
528 Ref: 030-007-012

confusion, what that confusion had been or its significance. By contrast, Dr. O'Donohoe's account of these developments suggests that the confusion over fluid administration was the issue which was causing him the most concern.

436. It will be investigated during the Oral Hearings whether the doctors should have discussed this fact further with someone else, as Dr. O'Donohoe says he did with Dr. Kelly (e.g. Dr. Hanrahan, Dr. Auterson, the Coroner, etc.).

437. Indeed, other sources of evidence which are available to the Inquiry suggest the possibility that Dr. O'Donohoe was, at that time, becoming agitated about the issue of Lucy's fluid management. When the Royal College of Paediatrics and Child Health ('RCPCH') examined Lucy's case in the context of an external review of clinical care provided by Dr. O'Donohoe (which is examined in some detail later in this Opening), Sister Etain Traynor[529], Paediatric Ward Sister, was interviewed. The following account was described in the RCPCH draft report:

"Although Sister Traenor (sic) was not on call when this child was admitted she was on duty the following morning. The nurses who had been looking after Lucy did not express any concern. She reported a conversation with Dr. O'Donohoe when he said to Sister Treanor, "what are you going to do about the IV fluids your staff got wrong?" In response Sister Treanor admitted that there had been a nursing error in totalling the fluids. Sister Treanor felt that Dr. O'Donohoe was trying to instil a blame culture relating to this particular case."[530]

438. In her witness statement for the Inquiry, Sister Traynor has also referred to a discussion with Dr. O'Donohoe. She has recalled that Dr. O'Donohoe came into her office and asked "*what had happened here last night*".[531]

439. However, by contrast with the account that she provided to the RCPCH, Sister Traynor has told the Inquiry that, to the best of her recollection, *"Dr. O'Donohoe did not mention fluids or make any other comments in relation to Lucy's case to me"*.

Critical Incident Report

440. According to Mr. Hugh Mills, Chief Executive of the Sperrin Lakeland Trust, there were two procedures which were relevant in respect of reporting untoward events internally and to the Western Health and Social Services Board.

(i) Circular P.1/86 WHSSB – Notification of untoward events/unusual occurrences to Board Headquarters, 3rd February 1986

529 See List of Persons Ref: 325-002-001
530 Ref: WS-298/3, p.12
531 Ref: WS-310/1, p.4

(ii) Circular ADM1 9/96 - Sperrin Lakeland HSC Trust Procedures for recording and notifying accidents, untoward events and unusual occurrences on Trust premises, February 1997

441. Mr. Mills has also explained that the Trust was preparing for the introduction of clinical and social care governance during late 1999 and 2000. A Clinical and Social Care Governance Committee was set up on 23rd November 2000, in advance of formal DHSSPS policy (2003). The Women's and Child Health Directorate were piloting a Critical Incident reporting form at the time of Lucy's admission in April 2000.[532]

442. The discussion described in the draft RCPCH report would appear to have taken place on the morning of 14th April. The allegation raised by Dr. O'Donohoe in this discussion might well have been the prompt for Sister Traynor to make a formal report to Mrs. Esther Millar, Clinical Services Manager, Erne Hospital. This report also focussed on the fluid mismanagement issues issue.

443. The clinical incident report was opened by Mrs. Millar on 14th April 2000. It recorded the following information:

"Information provided verbally to E Millar by Ward Sister on 14 April 2000. Child admitted before day staff went off duty 12 April. IV fluids not able to be sited by SHO – sited by Dr. O'Donohoe later. Child collapsed 0300 on 13 April 2000 bagged, resuscitated, transferred HDU and to Paed ICU Belfast. Concern expressed about fluids prescribed / administered…"[533].

444. The report went on to note that Lucy had "*collapsed unexpectedly. Cause unknown*". A verbal report had, apparently, been provided to Dr. O'Donohoe which indicated that Lucy *"was clinically dead but still on mechanical ventilation."*

445. A later entry into the clinical incident report made on 17th April indicated the action which had been taken - the case was to be reviewed by the senior team.

446. Dr. O'Donohoe has claimed that he was not aware of the specific procedures in place at the Trust when an adverse incident had occurred leading to an unexpected death.[534] Nevertheless, it would appear that he reported the matter appropriately and that his report to Dr. Kelly and his request that it be treated under critical incident reporting triggered the review which is alluded to in Mrs. Millar's report.

447. However, it is an issue to be considered during the Oral Hearings regarding how quickly Dr. O'Donohoe reported the concerns about the incident: did he

532 Ref: WS-290/1, p.9
533 Ref: 036a-045-096 to 097
534 Ref: WS-278/1, p.4

report on 13th April 2000 when the incident occurred, or did he leave it until the next day, and if the latter, why did he delay in reporting?

448. A note contained within the file of Mr. Mills suggests that he was only told about the incident at 09:00 on 14th April, some 24 hours after Lucy had been transferred to the RBHSC.[535] The report from Dr. Kelly to Mr. Mills flagged up the question of whether the wrong drug had been used or whether Lucy had received the incorrect dose/level of fluids.

449. Dr. Kelly has indicated that on 14th April he agreed with Mr. Mills that Mr. Eugene Fee[536], Director of Acute Hospital Services, Erne Hospital,[537] should lead a review to investigate all aspects of Lucy's case, supported by Dr. Trevor Anderson[538] (Clinical Director of Women & Children's Services, Erne Hospital).[539] It was subsequently agreed that Mr. Fee and Dr. Anderson would jointly co-ordinate the review.[540]

450. Steps were also taken on 14th April to notify the Western Health and Social Services Board ('WHSSB') of Lucy's death and the establishment of the review.[541] The interaction between senior management at the Trust and officials of the Trust will be examined in greater detail in the sections below.

451. In the context of his role within the Erne Hospital, Dr. Anderson reported to Mr. Fee for management and administration purposes, and to Dr. Kelly for professional staff personnel matters. He held monthly meetings with Mr. Fee, Mrs Millar. Clinical Services Manager for Paediatrics, and Dr. Halahakoon[542], the Trust lead consultant paediatrician.

452. Mrs. Bridget O'Rawe[543], Director of Corporate Affairs at Sperrin Lakeland Trust, was also informed by the Chief Executive who became aware of press interest on 17th April. On that day, Mr. Mills reports that the Chairman of the Trust was informed.[544]

Establishing the Work of the Review

453. The documents available to the Inquiry show that the Trust had constructed a framework for conducting case reviews.[545] It is unclear when this framework was introduced or what prompted its introduction. It is also unclear whether it was available at the time of the review in Lucy's case.

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535 Ref: 030-010-017
536 See List of Persons Ref: 325-002-001
537 In his witness statement, Dr. Kelly suggests that he contacted Mr. Mills on the 13 April, immediately upon receiving the call from Dr. O'Donohoe: WS-290/1, p.5.
538 See List of Persons Ref: 325-002-001
539 Ref: 030-007-012, Ref: 030-010-017 & Ref: 036b-058-094
540 Ref: 033-102-285; Ref: 030-007-012, Ref: 030-010-017 & Ref: 036b-058-094
541 Ref: WS-290/1, p.5
542 See List of Persons Ref: 325-002-001
543 See List of Persons Ref: 325-002-001
544 Ref: 030-010-017
545 Ref: 036a-039-083

454. When interviewed by the PSNI, senior managers of the Trust explained that there was not a standard process in Northern Ireland in 2000 when examining adverse incidents: see for example the answers given by Mr. Fee when interviewed by PSNI on 16th March 2005.[546]

455. However, Mrs. O'Rawe explained in a letter to Lucy's father that the case review which was carried out was:

> *"…one which has been introduced by the Sperrin Lakeland Trust in the last 2 years or so and is in the main undertaken where there has been a sudden unexpected death or where clinicians and professionals involved identified unusual complications or difficulties arising during the management of a patient's care."*[547]

456. In any event, the Inquiry has not been provided with any material tending to indicate that, as they carried out their work of co-ordinating the review, Dr. Anderson and Mr. Fee were working to any particular protocol or framework.

457. Dr. Kelly has told the Inquiry that in discussions with Mr. Fee he emphasised that *"there were no restrictions on the scope or extent of review and Mr. Fee and Dr. Anderson were at liberty to bring whatever resources were required to complete their review."*[548] The Oral Hearings will examine the steps taken by senior managers such as Dr. Kelly and Mr. Mills to ensure that the review was effectively carried out.

458. It would appear that the work of the review commenced on or about 17th and 18th April when Dr. Anderson and Mr. Fee met Dr. O'Donohoe, Dr. Malik, Sister Edmondson (Night Manager at Erne Hospital), Staff Nurse McManus, Enrolled Nurse McCaffrey and Staff Nurse McNeill. The Inquiry is not aware of any record of those meetings. When asked about these meetings, Dr. Anderson has told the Inquiry that he cannot recall meeting the staff.[549]

459. A retrospective record made in Appendix 6 of the review report (which was to be published on 31st July 2000) notes that the staff were offered support and were advised of the intention to conduct a review.[550]

460. On 19th April, Dr. Anderson and Mr. Fee met to review the case notes and to agree an action plan. It was agreed they would ask the above-mentioned staff as well as Dr. Auterson (Consultant Anaesthetist) to provide factual accounts of the sequence of events from their perspective.

461. Importantly, Dr. Anderson and Mr. Fee also decided that they would require an external paediatric opinion for the purposes of considering the management of Lucy's care. Mr. Fee has explained that they *"concluded that*

546 Ref: 116-030-006
547 Ref: 033-026-054
548 Ref: WS-290/1, p.13
549 Ref: WS-291/1, p.6
550 Ref: 033-102-285

[they] needed a Paediatrician opinion on the treatment given in particular relating to the appropriateness of the fluids given during Lucy's admission."[551]

462. The request for external paediatric input was made to Mr. Mills by Mr. Fee at a meeting on 20th April. Mr. Mills agreed to address this and ultimately Dr. Murray Quinn was asked to assist.[552]

463. At this meeting it was also noted that Lucy had been given fluid at a rate of 100ml/hr, when it was said that Dr. O'Donohoe had intended 100ml for the first hour, and 30ml/hr thereafter. It was also explained to Mr. Mills that when the child collapsed, anaesthetic support prescribed more fluids,[553] although this appears to have been based on an inaccurate reading of the notes. Certainly, as appears from the sections set out above, the decision in the immediate post-collapse period to administer normal saline and to allow it to run freely was a decision reached by Dr. Malik in discussion with Staff Nurse Jones,[554] a decision which had been reached and implemented before the anaesthetist attended.

464. The meeting also discussed the fact that the post-mortem reported cerebral oedema.

Participation of Clinical & Nursing Staff

465. The following nursing and medical staff provided statements which were considered as part of the review:

(i) Dr. O'Donohoe[555]

(ii) Dr. Malik[556];

(iii) Dr. Auterson[557].

(iv) Staff Nurse McNeill[558]

(v) Enrolled Nurse McCaffrey[559];

(vi) Staff Nurse Swift[560];

(vii) Staff Nurse Jones[561];

551 Ref: WS-287/1, p.8
552 Ref: 030-010-017
553 Ref: 030-010-017
554 Ref: 115-014-002
555 Ref: 033-102-293
556 Ref: 033-102-281
557 Ref: 033-102-316
558 Ref: 033-102-283
559 Ref: 033-102-289
560 Ref: 033-102-280
561 Ref: 033-102-320

(viii) Staff Nurse McManus.[562]

466. The review also considered the information provided orally by Sister Traynor.[563]

467. However, the papers available to the Inquiry demonstrate the following shortcomings of the review:

(i) Not all of the staff who had been on duty were asked to give information. For example, Sister Edmondson[564], who was the night manager on duty and who had been called to the ward when Lucy deteriorated, did not provide a statement. This is of concern to Dr. MacFaul.[565] It is unclear why she failed to provide a report and, moreover, it is unclear whether she was pursued to provide a report.

(ii) Lucy's parents were not informed that a review was taking place or indeed invited to participate in it, notwithstanding the presence of Mrs. Crawford throughout her daughter's treatment and subsequent collapse.

(iii) Staff were not formally debriefed in relation to the incidents associated with the deterioration in Lucy's condition.

(iv) Steps were not taken to raise questions with them about the contents of their statements, whether to establish facts, obtain clarifications or to promote conclusions. In particular, as Dr. MacFaul notes, those conducting the review failed to seek adequate clarification (whether in writing or at an interview) of the volume, rate and type of fluids which had been given, or seek opinion in relation to the appropriateness of the fluid regime which was administered and the contribution which it may have made to Lucy's deterioration and death.[566]

(v) Steps were not taken to raise questions with them about the contents of their statements, whether to establish facts, obtain clarifications or to promote conclusions.

(vi) The statements provided verbally or in writing by the clinicians and nursing staff were not followed up.

(vii) Communication did not take place between the Erne Hospital and the RBHSC to convey the importance of identifying what had happened to Lucy and of establishing what had caused her death.

(viii) The RBHSC were not advised that a review was being conducted.

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562 Ref: 033-102-314
563 Ref: 033-102-295
564 See List of Persons Ref: 325-002-001
565 Ref: 250-003-041
566 Ref: 250-003-043

(ix) The Erne did not ask for Lucy's RBHSC notes and records.

(x) The Erne did not ask clinicians in the RBHSC to contribute to the review. Dr. MacFaul is concerned about this omission. Moreover, he has noted a failure to query the absence of a discharge letter from the RBHSC and a failure to seek information in relation to the death certificate.[567] Mr. Fee has suggested that no contact was made with the clinicians at the RBHSC because a decision was taken *"to seek an opinion from a clinician who had not been involved in Lucy's care"*.[568]

468. Dr. MacFaul states that, when medical and nursing staff were asked to provide reports, their brief should have included a request for them to report on any aspects of Lucy's care which concerned them.[569]

469. Furthermore, Dr. MacFaul highlights the fact that written requests for information were directed to the nursing staff, and that two were asked for, or at least offered, their opinion, whereas it appears that Drs. O'Donohoe, Malik, and Auterson were not invited in writing to contribute to the review process and specific points sought were not set out.[570]

470. It should be noted that although Dr. Anderson has stated that *"we wrote to medical and nursing staff involved asking for a factual report"*,[571] when he was pressed to identify the correspondence which was sent to medical staff he could only point to the correspondence which had been sent to the nurses.[572]

471. The apparent failure to write to the clinicians or otherwise direct them to address specific issues of concern may have been a significant omission (Dr. MacFaul terms it a "*major flaw*"[573]) because it appears likely that the three clinicians who were centrally involved in providing care to Lucy before, at the time of and after her collapse could have provided important and highly relevant information to the review but were not pressed to do so.

472. Indeed, as appears from the analysis set out below, while Dr. Quinn was retained for the primary purpose of advising in relation to Lucy's fluid management, the three clinicians were not called upon to address the specific issues relating to fluid management in the reports which they prepared for the review, or subsequently.

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567 Ref: 250-003-013

568 Ref: WS-287/1, p.17. It is noted that Mr. Fee was aware at the time of conducting the review that the Crawfords had met with Drs. Hanrahan and O'Hara. There is no indication that the co-ordinators of the review sought to obtain the information which was provided to the Crawfords by Dr. Hanrahan or Dr. O'Hara

569 Ref: 250-003-062

570 Ref: 250-003-062

571 Ref: WS-291/1, p.5

572 Ref: WS-291/2, p.4

573 Ref: 250-003-062

473. When asked about this issue, Mr. Fee has simply said, "*I do not have any information to confirm whether or not the medical staff were asked to address the issues relating to the fluids received by Lucy.*"[574] He cannot explain why the review concluded without receiving from the clinicians involved any written account in relation to Lucy's fluid management, or the implications for her of the fluids actually administered.[575] He has stated that the review placed its confidence in Dr. Quinn "*and were reassured at the time that the fluids administered were within acceptable limits*".[576]

Dr. O'Donohoe's Contribution to the Review

474. Dr. O'Donohoe has told the Inquiry in his witness statement that he was asked by Dr. Anderson in correspondence to provide a report in order to set out the facts as he believed them to be.[577]

475. The Inquiry has not been provided with a copy of Dr. Anderson's letter. It is notable that amongst the appendices of the Trust's review report are copies of the letters which were sent to some of the nursing staff requesting them to produce reports for the review.[578] As has been noted above, no such correspondence has been produced in respect of the medical staff.

476. Mr. Fee has been asked whether the clinicians involved were interviewed after they submitted their reports for the review. He has explained that he cannot recall.[579] The Inquiry has not been provided with a record of any such interviews.

477. Dr. O'Donohoe has stated that no one from the Trust interviewed him before he submitted his report to discuss his role in the treatment of Lucy or the cause of her deterioration. He was also not interviewed after the submission of his report to discuss its contents. He does not mention in his statement to the Inquiry the meeting which he reportedly held with Mr. Fee and Dr. Anderson on 17th/18th April and which is referred to in the review report.[580]

478. Dr. O'Donohoe submitted his report to Dr. Anderson under cover of a letter which was incorrectly dated "5/3/2000".[581] At the time of writing his report for the review, Dr. O'Donohoe has indicated that he did have concerns about how Lucy's was treated.[582] Those concerns had been triggered by his conversation with Dr. Crean which has been examined earlier in this

574 Ref: WS-287/1, p.12
575 Ref: WS-287/1, p.13
576 Ref: WS-287/1, p.14
577 Ref: WS-278/1, p.7
578 Ref: 033-102-299 is an example of one such letter. This letter was directed to Sister McManus and directed her to address specific issues relating to Lucy's fluid management
579 Ref: WS-278/1, p.14
580 Ref: 033-102-285
581 Ref: 033-102-292 – it is also possible that this date is supposed to be 5th May 2000 due to a transposition of numbers
582 Ref: WS-278/1, p.8

Opening. In particular, he was aware that Lucy had not received the fluid regime which he states he had directed she should have had.

479. However, Dr. O'Donohoe's report for the review is silent on these issues, briefly outlining the fluid regime which he claimed to have verbally directed to Dr. Malik:

"While strapping the cannula in situ I saw Dr. Malik writing as I was describing the fluid regime i.e. 100 mls as a bolus over the first hour and then 30 mls per hour. The 100 mls was approximately 10 ml/kg and to cover the possibility that the cannula might not last very long and the succeeding rate was relatively slow since I had seen her taking oral fluid well and presumed the rate needed was relatively small."[583]

480. With the knowledge that Lucy had not received the fluids which he had intended she should receive, it is unclear why Dr. O'Donohoe did not assist the review by highlighting the problem. Indeed, given that Dr. Crean had highlighted a concern about the fluids administered to Lucy, it is unclear why this was not drawn to the attention of the review.

481. In addition, in his report Dr. O'Donohoe failed to draw any attention to the fluids which he knew Lucy was given after she had suffered her collapse. Indeed, his report does not make any reference to the fact that fluids were changed from Solution No.18 to normal saline and permitted to run in freely. In this context, he failed to explain that a blood sample for repeat electrolytes which produced a serum sodium result of 127 was only obtained after a significant quantity of normal saline had been infused.

482. Dr. O'Donohoe has been referred to a report which he prepared for Dr. Kelly on 24th August 2003, at which time he knew an Inquest was to be held.[584] That report followed the same broad format of his report for the review, but it now included a reference to the normal saline which had been prescribed by Dr. Malik:

"My recollection is that Dr. Malik had started the intravenous normal saline before calling me and that the 500mls given was virtually complete before I arrived. Her repeat urea and electrolyte measurement showed the sodium had fallen to 127.

…..

"The only respect in which this report differs from the previous version is in respect to the infusion of 500mls of normal saline, to which I did not refer in the version I sent to you previously. Since this is approximately 50ml/kg a much larger volume than I would use I believe this had been started following the first episode of diarrhoea i.e. before the convulsion."

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583 Ref: 033-102-293

584 Ref: 047-053-148. It is noteworthy that the report prepared for Dr. Kelly's attention was ultimately amended before it was sent to the Coroner. The version sent to the Coroner is at Ref: 013-018-066. A number of sections were removed including the concern expressed by Dr. O'Donohoe about the volume of normal saline that had been infused.

483. Factually, the amendment appears to be inconsistent with the clinical notes[585] and the PSNI statement of Staff Nurse Jones[586], which make it clear that normal saline was only started after Lucy suffered the seizure.

484. However, the amended report had the merit of revealing to Dr. Kelly information about the quantity of normal saline used, how quickly it was infused and Dr. O'Donohoe's belief that it was inappropriately used. Such details were not made available to the Trust's review. Dr. O'Donohoe has explained his omission to provide this information in the following terms:

> *"Although Dr. Anderson was the Clinical Director for the Women's and Children's Department, I had perceived him as being reluctant to get involved in technical issues in the paediatric section."*[587]

485. It is not at all clear what this explanation is intended to convey, or whether it provides an adequate explanation for the failure to provide the review with a full factual account of the treatment received by Lucy. It is notable that the review proceeded on the apparently erroneous basis that Lucy had merely received 250mls of normal saline in the period between 03.15 and 04.00, at which point it was reduced to 30ml/hr.[588]

486. Dr. O'Donohoe now accepts that the care received by Lucy at the Erne Hospital was "*inadequate*".[589] He accepts that, as Lucy's consultant, it was his responsibility to have ensured that a written fluid prescription was given for Lucy's fluid management and that it was understood by junior medical staff and nursing staff.

487. Dr. O'Donohoe cannot now explain why his contribution to the Trust's review did not include any statement about the appropriateness of the fluid regime actually applied to Lucy, or any comment about the possible reasons for her deterioration and death.[590] Dr. O'Donohoe has explained that he *"cannot now remember why [he] omitted any reference to the fluids Lucy actually had received."*[591]

488. Dr. MacFaul has also characterised Dr. O'Donohoe's report for the review as *"inadequate"*.[592] However, he has also drawn attention to the shortcomings of a review which failed to follow up on the report submitted by Dr. O'Donohoe by interviewing him.

489. Dr. MacFaul has expressed particular concerns about the failure on the part of the review team to address with Dr. O'Donohoe the accuracy of the note he

585 Ref: 027-010-024
586 Ref: 115-014-002
587 Ref: WS-278/2, p.6
588 Ref: 033-102-287
589 Ref: WS-278/1, p.14
590 Ref: WS-278/1, p.8
591 Ref: WS-278/1, p.8
592 Ref: 250-003-044

made following his conversation with Dr. Crean, and the failure to require Dr. O'Donohoe to clarify and explain for the review the total volume of Solution No.18 and normal saline received by Lucy.[593] As noted elsewhere, Dr. MacFaul has also drawn attention to the fact that there was a failure to ask medical and nursing staff (including Dr. O'Donohoe) to report on any aspects of Lucy's care which caused them concern.[594]

490. Mr. Fee has told the Inquiry that he cannot recall asking Dr. O'Donohoe to express a view on the implications for Lucy of receiving a greater volume of Solution No.18 than he had intended to give.[595]

491. Dr. Anderson has been asked by the Inquiry to comment on whether he considered it important to obtain, from the doctors involved with Lucy's care, information on the issues surrounding her fluid management and the appropriateness of the fluids she received. He has stated that he understood that these matters were being addressed by Dr. Quinn.[596] However, it was not part of Dr. Quinn's role to interview staff.

492. Dr. O'Donohoe has made it clear that the only person in the Trust that he spoke to about Lucy's deterioration and death was Dr. Kelly.[597] He omits to mention the discussions which he held with Dr. Malik, which will be described in the section below and with Sister Traynor, which has already been mentioned above.

493. Nevertheless, it is Dr. O'Donohoe's position that, at no time, was he asked by anyone at the Trust to provide assistance in understanding the cause of Lucy's death and/or whether the medical care which she received at the Erne Hospital could have contributed to her death.[598]

494. The Coroner commented in his PSNI witness statement that:

"*Once the Erne Hospital became aware that Lucy had died I would have thought it was highly probable that her clinical management there would have been the subject of discussion within the hospital. I find it difficult to understand why the consultant in charge did not consider it appropriate to make contact with my office*."[599]

495. Dr. O'Donohoe was the lead clinician with responsibility for Lucy's care. It is an issue which will be further considered at the Oral Hearings whether he was asked to provide assistance to the Trust, and if not, the significance of the omission to do so on the part of the Trust.

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593 Ref: 250-003-063
594 Ref: 250-003-062
595 Ref: WS-287/1, p.9
596 Ref: WS-291/1, p.11
597 Ref: WS-278/2, p.4
598 Ref: WS-278/1, p.11
599 Ref: 115-034-003

496. The Oral Hearings will also consider whether Dr. O'Donohoe could have taken steps to better assist that review.

Dr. Malik's Contribution to the Review

497. In his witness statement to the Inquiry, Dr. Malik has explained that he was asked by Dr. Anderson to prepare a report for the review. He was told that the Hospital was conducting an internal enquiry into Lucy's unexpected death and that he should prepare a report to explain his role in her care and management.[600]

498. Dr. Malik sent a report to Mrs Millar on 5th May 2000,[601] in which he made no mention whatsoever of Lucy's fluid management, whether before or after her collapse, nor did he allude to the problems which inherent in her fluid regime.

499. In the section of his report dealing with the pre-collapse period, Dr. Malik explained that, having called Dr. O'Donohoe for the purposes of assisting with the insertion of an intravenous cannula, he left Lucy to attend to another emergency admission.[602] The implication of the report is that Dr. Malik was not aware of the fluid type or volume prescribed for Lucy.

500. This account is at variance with the information provided to the review by Dr. O'Donohoe[603] and Staff Nurse Swift[604], each of whom explained in their reports that Dr. Malik was in fact present when Dr. O'Donohoe issued verbal instructions regarding the fluid regime.

501. Moreover, in the section of his report dealing with the post-collapse period, Dr. Malik failed to say anything about the decision to change the fluids to normal saline. Yet, it appears from his clinical note that the decision to change the fluids and to allow 500ml to run in over a period of 60 minutes was a decision which rested with him.[605] He also failed to mention the serum electrolyte results which were obtained after her collapse and which identified that Lucy had suffered hyponatraemia.

502. Dr. Malik has stated that the purpose of the report was to explain his role in Lucy's management and since he *"was not the one who initiated the fluid regimen"*, he decided not to mention the fluids administered.[606]

503. Dr. Malik was also asked by the Inquiry to explain why he omitted to express any view in his report about the appropriateness of the fluid regime applied

600 Ref: WS-285/1, p.8
601 Ref: 033-102-281
602 Ref: 033-102-281
603 Ref: 033-102-293
604 Ref: 033-102-290
605 Ref: 027-010-024. The sequence of events leading to the change of fluids after Lucy's collapse is fully explained in an account given to the PSNI by Staff Nurse Jones at Ref: 115-013-002
606 Ref: WS-285/1, p.9

to Lucy. He has stated that this was not the purpose of the report.[607] In any event, he has stated that at the time of providing his report to the review *"the possibility that the patient deteriorated due to treatment in our unit did not cross my mind because the senior doctor (consultant) had taken charge of the patient's management at very initial stages".*

504. However, this account may not be consistent with another account provided by Dr. Malik. Dr. Malik was interviewed by Dr. Kelly on 7th November 2000. The record of this meeting indicates that Dr. Malik claimed that he was approached by Dr. O'Donohoe shortly after Lucy's death. During that conversation, Dr. O'Donohoe told Dr. Malik that there would be an enquiry into the circumstances of Lucy's death, which might lead to an external review, and might even lead to a court case. He was told by Dr. O'Donohoe that he might need to contact the BMA and that *"he should consider seeking support from colleagues."*[608]

505. Dr. Malik explained to Dr. Kelly that Dr. O'Donohoe told him that *"people might say the responsibility lies with me (Dr. Malik)"* but that Dr. O'Donohoe reassured him that he would not allow this to happen.

506. Moreover, in an account provided by Dr. Malik to the General Medical Council on 21st September 2004 he acknowledged that *"there was probably a misunderstanding between the nursing staff and the consultant about the fluid regime"* and he asserted that the nursing staff *"should have been aware of the inappropriate fluid regime…"*

507. It is unclear from this account (which is repeated in his statement for the Inquiry) when Dr. Malik reached the view that there had been a misunderstanding and that the fluid regime was inappropriate. However, it appears that others, notably Dr. Auterson and Dr. O'Donohoe, were aware of the inappropriateness of the fluids that had been given even before Lucy was declared dead.

508. Dr. MacFaul has observed that *"given the uncertainty about the fluids [Dr. Malik] should have been asked to provide a report"* which dealt specifically with the issues surrounding Lucy's fluid management.[609] This is an issue which will be further explored at the Oral Hearings together with the question of whether, even allowing for any shortcomings of the review process, Dr. Malik should in any event have provided greater assistance to the review.

Dr. Auterson's Contribution to the Review

509. Dr. Auterson understood that when an adverse incident occurred it was an obligation for a clinician to submit a statement of fact to Trust management.[610]

607 Ref: WS-285/1, p.10
608 Ref: 036C-011-034
609 Ref: 250-003-043
610 Ref: WS-274/1, p.3

In his experience, there would then be a Trust enquiry into the incident and possibly an Inquest. In respect of Lucy's case, it is his recollection that either Dr. Kelly or Mr. Fee asked him to provide a statement.[611] He was asked to address the facts surrounding his part in the incident.[612]

510. Dr. Auterson submitted his statement to the Trust on 20th April 2000. It would appear that Dr. Auterson prepared it after consulting Lucy's clinical file and extracting from it the important data concerning her condition and care.

511. Dr. Auterson has carefully identified in his statement all of the major interventions which were applied to Lucy with one exception: he has omitted to refer to the intravenous fluids which were administered to her before and after her collapse. It is unclear whether this was a deliberate omission. However, it is quite clear from the information supplied to the Inquiry by Dr. Auterson in his Inquiry witness statement that he was acutely aware of the importance of fluids in causing Lucy's deterioration.

512. Thus, while Dr. Auterson explained to the review in his statement that when he attended the child shortly after 03.50 he observed *"a cannula in her right hand or arm and [that] IV fluids were being administered,"*[613] he did not go on to explain to the reader what those fluids were or the rate of administration. Nor did he say what he knew about the fluids received before Lucy's collapse or the appropriateness of those fluids, and nor did he express any view on the role played by fluid mismanagement in her deterioration and death.

513. This role played by Dr. Auterson in assisting the review and his failure to deal with the fluid management issues in the contribution which he made to the review are issues which will be further considered at the Oral Hearings.

514. Dr. Auterson correctly identified in his statement for the review the results from the repeat U&E tests which were carried out following Lucy's collapse. However, he wrote alongside those results the question, *"? When sample taken."*[614] It seems clear that Dr. Auterson was aware of the significance of the timing of that sample in relation to the time of the collapse and the time of the infusion of normal saline but again, he failed to explain this in his statement.

515. Dr. MacFaul has expressed concern that the review team failed to clarify with clinicians and/or document the time when blood was taken for the repeat electrolytes, the time that the results were available, the time when pupils were fixed and dilated and the time of Dr. Auterson's attendance.[615]

516. It is the case that Dr. Auterson was provided with Lucy's repeat U&E results during the time when he was attempting to resuscitate her in the early hours

611 Ref: WS-274/1, p.6
612 Ref: WS-274/1, p.6
613 Ref: 033-102-316
614 Ref: 033-102-317
615 Ref: 250-003-063, paras 278-280

of 13th April 2000.[616] It will be recalled that these results demonstrated a fall in her serum sodium to 127mmol/l. At the very time that he received those results, Dr. Auterson accepts that he started to reach the view that Lucy must have been given too much of the wrong fluid, since he believed that this *"could be the most likely cause of hyponatraemia."*[617]

517. Taking into account the electrolyte results, the fluid balance chart and the child's neurological status, Dr. Auterson was suspicious that hyponatraemia was a factor which was relevant to her deterioration.[618]

518. After Lucy's death, Dr. Auterson quite properly took steps to review the fluid balance chart and the laboratory results. This led him to the view *"that hyponatraemia played a significant part in Lucy's deterioration and death"*.[619] He has told the Inquiry that in his view, *"The quality of the care was less than satisfactory"* and that Lucy's death was *"probably avoidable"*.[620]

519. At the time of Lucy's death, Dr. Auterson had been practising as a Consultant Anaesthetist for eight years.[621] As an experienced clinician, it is arguable that, had he expressed his views to the co-ordinators of the review, they may have carried considerable weight.

520. Dr. Auterson has been asked by the Inquiry to explain why his statement to the review did not discuss hyponatraemia and the mismanagement of Lucy's fluids. He has answered by explaining that, while he did not use the word "hyponatraemia", he did refer to Lucy's serum sodium level, which by definition was hyponatraemia.[622] Furthermore, he did not use his statement to the review to explain that Lucy had received too much of the wrong type of fluid because in his view, *"if hyponatraemia was the cause of Lucy's condition then too much of the wrong IV fluid….[was] an obvious conclusion."*[623]

521. In this context, it is interesting to note that Dr. Anderson has told the Inquiry that *"at the time of the review the word 'hyponatraemia' had not yet been mentioned."*[624] Indeed, he has stated that, *"we did not appreciate that hyponatraemia was a feature of her case."*[625]

522. Dr. Auterson has explained that from his perspective he was never asked to assist the Trust *"in understanding the cause of LC's death"* and/or whether medical treatment contributed to her death.[626] If this is correct, then the

616 Ref: WS-274/1, p.4
617 Ref: WS-274/1, p.5
618 Ref: WS-274/1, p.5
619 Ref: WS-274/1, p.4
620 Ref: WS-274/1 ,p.7
621 Ref: WS-274/1, p.2
622 Ref: WS-274/1, p.6
623 Ref: WS-274/1, p.7
624 Ref: WS-291/1, p.19
625 Ref: WS-291/2, p.6
626 Ref: WS-274/1, p.4

purpose of the review and the contribution to be made to assisting that review by treating clinicians could not have been well explained. He appears to have taken a determinedly narrow view of the instruction that he was to address in his statement *"the facts surrounding my part in the incident".*[627]

523. Dr. Auterson has stated that in the 24-48 hours after her death, he discussed Lucy's case *"informally"* "with Drs. O'Donohoe and Anderson and his anaesthetist colleagues.[628]

524. Dr. Auterson has told the Inquiry that he discussed with Dr. O'Donohoe the transfer to RBHSC and Lucy's condition on arrival, with Dr. Anderson he discussed the sequence of events during resuscitation and transfer, and with Dr. Cody and Dr. Holmes he discussed *"the sequence of events and possible causes of Lucy's condition".*[629] It is unclear why he would discuss the latter issues privately and informally with colleagues but fail to discuss them forward formally within the confines of the review.

525. Referring to the principles set out in the General Medical Council document "Good Medical Practice' (1998), Dr. MacFaul has commented that "Dr. Auterson *"should have reported his concerns about the fluid regime to Dr. Kelly at the time and arguably to the review."*[630]

526. Whether Dr. Auterson should have done more to communicate his concerns about Lucy's treatment, and whether the review ought to have been conducted in such a manner as to ensure those concerns were exposed are matters to be considered during the Oral Hearings.

Sister Traynor's Contribution to the Review

527. As was described above, Sister Traynor raised a clinical incident report with Mrs. E. Millar on 14th April 2000 in which she described concerns *"about fluids prescribed / administered".*[631]

528. In her witness statement to the Inquiry, Sister Traynor has explained the circumstances in which she reported her concerns to Mrs. Millar and the nature of her concerns:

> *"I stated that I had concerns that the IV fluids administered had (although not recorded or prescribed) may have contributed to the child's deterioration. I explained that I also had concerns in regard to the lack of detail recorded on the nursing kardex…"*[632]

627 Ref: WS-274/1, p.6
628 Ref: WS-274/1, p.6
629 Ref: WS-274/2, p.2
630 Ref: 250-003-045
631 Ref: 036a-045-096
632 Ref: WS-310/1, p.4

529. However, when she was subsequently interviewed by Mr. Fee on 27th April 2000 for the purposes of the review, Sister Traynor has been recorded as suggesting that she had no concerns about the fluid regime which was applied, although the prescription had not been recorded adequately:

"Mr. Fee spoke with Sister Traynor who commented that the fluid replacement volume was not unusual in a child of this age given her condition. She also stated that there did not appear to be evidence of overload of fluids. We reviewed the notes again. Sister confirmed that the rate to be administered would normally be recorded on the fluid balance chart along with the type of fluids."[633]

530. When asked about the remarks attributed to her in Mr. Fee's note, Sister Traynor is clear that they are inaccurate:

"This is the first time that I recall having seen this statement. The note of this meeting was not shared with me at any time so that I could verify the comment attributed to me. I believe the comment documented to be inaccurate as I could not have given a fully informed answer to Mr. Fee's question specific to Lucy's condition I had not been involved in Lucy's care, also because the information available to me at that time was limited, due to the lack of detail recorded on the nursing notes and fluid balance chart…I believe the question put to me asked was it unusual for a patient to have 100mls/hr and I responded that this could be the case for older children as we admitted up to 16 yrs of age." [634]

531. At the Oral Hearings, it is an issue to be considered whether Sister Traynor expressed herself in such a way as to create the impression that the fluids administered to Lucy were appropriate for her circumstances. The extent to which Sister Traynor had sufficient expertise to be expressing an opinion in relation to Lucy's fluid management may also be considered.

532. Consideration will also be given to the adequacy of a review process which attributed an opinion to a member of staff in relation to the important matter of fluid management, without apparently, seeking to verify her remarks or have them included in a statement.

533. Dr. MacFaul has a concern that the review team failed to sow the review report to contributors to the review and permit comment before it was finalised.[635] In the context of the specific issue raised by Sister Traynor, he has commented as follows:

"This failure to share Mr. Fee's note included in the review report is a further example of the deficiency of the review process in failing to share it with those who had contributed in order to clarify any incorrect entries and to reconcile different accounts."[636]

633 Ref: 033-102-295
634 Ref: WS-310/1, p.6
635 Ref: 250-003-097
636 Ref: 250-003-042

Meeting with the Crawfords

534. Dr. MacFaul has explained that Mr. and Mrs. Crawford should have been informed that a review was being undertaken, they should have been invited to contribute to it, and they should have been provided with the review report on its completion and any questions addressed.[637]

535. The Crawford family were not involved in the review which was undertaken by the Trust. They were not invited to participate in the review and, on their account, they were not even advised that the review was being undertaken.

536. By contrast, the Trust's position has been that Mr. and Mrs. Crawford were advised at a meeting with Dr. O'Donohoe that a review was being undertaken. So, for example, in a letter dated 15th May 2000 to Dr. William McConnell, Director of Public Health at the WHSSB, Dr. Kelly stated as follows:

"Initial interview has taken place with the family. Dr. O'Donohoe outlining the planned review of the case in line with Hospital Policy is underway and that results of such a review will be shared with them".[638]

537. However, it would appear that the first indication to the Crawford family that a review of Lucy's care had been conducted by the Trust was contained in a letter written by Mr. Mills on 11th October 2000 and sent to Mr. Stanley Millar, Chief Officer of the Western Health and Social Services Council, who was at that time acting as an advocate on behalf of the family.[639]

538. In response to this letter Mr. Crawford wrote to Ms. Bridget O'Rawe, the Trust's Director of Corporate Affairs, to record his surprise at the news that such a review had occurred:

"We are a little surprised that the Trust is now indicating that a review has been completed. At no stage were we contacted for our input into any review. We are also surprised at the suggestion that this review was initiated by the Trust and certainly we had never been notified that any review was being undertaken."[640]

539. The Crawfords met Dr. O'Donohoe, at their request, in May 2000. Mrs. Crawford told the PSNI that Dr. O'Donohoe had not approached them at any stage.[641]

540. Dr. MacFaul is critical of the fact that there is no record of this meeting.[642]

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637 Ref: 250-003-097, para 495
638 Ref: 036a-046-099
639 Ref: 033-039-135
640 Ref: 033-033-064
641 Ref: 115-002-002
642 Ref: 250-003-068, para 311

541. Dr. MacFaul is critical of the lack of a written record of this meeting in the case records, the failure to follow up with a letter to the parents or the general practitioner to confirm the substance of the discussion, and the failure to seek a discharge summary from the RBHSC.[643]

542. The meeting between Dr. O'Donohoe and Lucy's parents appears to have taken place about one month after the death.[644] In her statement to the Coroner, Mrs Crawford said

> "*We asked him various questions surrounding Lucy's death. He said 'he did not know' or 'did not understand it'. Dr. O'Donohoe did not have Lucy's notes with him. He said he had given them to Dr. Kelly to check. We were left feeling totally deflated and in the dark surrounding the circumstances in which Lucy died*".[645]

543. It does appear unusual that Dr. O'Donohoe would have attended a meeting with Lucy's parents without her medical notes, knowing that they would be seeking an explanation for her death. He has told the Inquiry that he searched for the notes before the meeting, and sought help in doing so, but could not find them in the usual places.[646] As appears from the review report, Mr. Fee and Dr. Anderson had arranged to leave a copy of the notes as well as the originals in Mrs. Millar's office.[647]

544. Dr. O'Donohoe has told the Inquiry in his witness statement that he told Lucy's parents that as he "*did not then have a clear understanding of what happened to Lucy [he] had given her notes to Dr. Kelly for further investigation.*"[648] He does not claim to have expressly told the parents that the Trust was by then engaged in a formal review of the circumstances of Lucy's care and death.

545. Mrs. Crawford has emphasised in her statement to the PSNI that when they spoke to Dr. O'Donohoe they "*didn't get any satisfactory answers*", he "*did not indicate that there were any concerns raised in relation to Lucy's death*" and he did not explain that Dr. Quinn was carrying out a review of Lucy's notes.[649]

546. In his witness statement, Mr. Fee has stated that on 21st April 2000 he asked Mrs. Marion Doherty (Health Visitor) to visit the Crawford family and to notify them of the planned review.[650] However, Mr. Fee has stated that he does not know what the Health Visitor actually told the family.[651]

643 Ref: 250-003-068, para 311
644 Ref: 030-010-018
645 Ref: 013-022-079
646 Ref: WS-278/1, p.13
647 Ref: 033-102-285
648 Ref: WS-278/1, p.14
649 Ref: 115-002-002
650 Ref: WS-287/1, p.5
651 Ref: WS-287/1, p.9

547. The review report written by Mr. Fee actually bemoaned the fact that the process did not have a description from Lucy's mother of the events surrounding her collapse.[652] He now accepts that it was a *"mistake"* not to have involved Lucy's parents in the review.[653]

548. Dr. Anderson has told the Inquiry that he suggested consultation with Lucy's parents, but this appears to be in the context of his recommendations made at the end of the review process.[654]

549. At the Oral Hearings, consideration will be given to whether the Trust dealt with Lucy's parents in a transparent fashion, and will consider what the implications were of any lack of transparency.

XVII. Involvement of Dr. Murray Quinn

Instruction of Dr. Quinn

550. Mr. Mills asked Dr. Murray Quinn[655], a Consultant Paediatrician at Altnagelvin Hospital, to assist with the review, and on 21st April 2000, he was contacted by Mr. Fee to discuss his role.[656] The terms of Dr. Quinn's engagement and the particular issues he was asked to address are discussed in detail below.

551. Mr. Fee wrote to Dr. Quinn after this telephone discussion as follows:[657]

> "*I would be grateful for your opinion on the range of issues discussed which would assist Dr. Anderson and my initial review of events relating to Lucy's care.*
>
> *These were:*
>
> (i) *The significance of the type and volume of fluid administered*
>
> (ii) *The likely cause of the cerebral oedema*
>
> (iii) *The likely cause of the change in the electrolyte balance i.e. was it likely to be caused by the type of fluids, the volume of fluids used, the diarrhoea or other factors."*
>
> *I would also welcome any other observations in relation to Lucy's condition and care you may feel is relevant at this stage.*"

652 Ref: 033-102-266
653 Ref: WS-287/1, p.16
654 Ref: 033-102-263
655 See List of Persons Ref: 325-002-001
656 Ref: 030-010-017
657 Ref: 033-102-296

552. Mr. Fee drafted the briefing letter to Dr. Quinn, after discussion with Dr. Kelly and Dr. Anderson.[658] It is Dr. Anderson's understanding that Dr. Quinn was retained for the purposes of reviewing the notes *"to determine if any obvious mistakes had been made".*[659] It is his recollection that the issues which were identified for Dr. Quinn to consider were raised in this way because *"fluid management was identified as an area of concern."*[660]

553. On 27th April, Mr. Fee informed Mr. Mills that he had spoken to Dr. Quinn. There is no record made of any restrictions imposed by Dr. Quinn on his report or any question raised about the status of what he was being asked to do. The status of the internal review being conducted was not clarified other than as "initial".

554. Dr. Quinn went on in his PSNI statement to say that he had advised Mr. Mills and therefore the Trust that he was placing a number of caveats around his involvement in the review:[661]

(i) He was not prepared to provide a report for the complaints procedure or for medico-legal purposes.

(ii) He had explained that the Trust should ascertain from staff on duty the exact volumes of fluid which had been given to Lucy because he was not prepared to interview staff himself, nor was he prepared to meet family members of Lucy.

(iii) He had advised that the Trust should obtain an opinion from a Consultant Paediatrician from outside of the Western Board area.

555. Ultimately, Dr. Quinn stated that he was persuaded to provide a written report when it had been his original intention to limit his involvement to a verbal commentary only.

556. Mr. Mills has stated that Dr. Quinn did not raise these issues with him, although he has noted that Dr. Quinn was not being asked to report for medico-legal or complaint purposes in any event. He has also stated that Dr. Quinn did not raise the subject of the involvement of an alternative Paediatrician. [662]

557. Moreover, Mr. Fee has no recollection of Dr. Quinn placing any restrictions around his participation in the review process, although he has also stated that Dr. Quinn was not asked to prepare a medico-legal report.[663] He has stated that he is unaware of any recommendation from Dr. Quinn that the

658 Ref: WS-287/1, p.10
659 Ref: WS-291/1, p.7
660 Ref: WS-291/1, p.8
661 Ref: 115-041-002
662 Ref: WS-293/1, p.10
663 Ref: WS-287/1, p.10

Trust should obtain an opinion from a paediatrician practising outside of the Western Board area.

558. Dr. MacFaul has stated that if Dr. Quinn was operating within a "*framework of limitations and constraints*" then he should have specified those restrictions as an introduction to his report. [664]

Independence of Dr. Quinn

559. At that time, Dr. Quinn was employed as a consultant paediatrician in the neighbouring Altnagelvin Trust. Concerns have been raised in relation to whether Dr. Quinn was sufficiently independent of the Trust to carry out the task which was asked of him.

560. While the Erne Hospital and Altnagelvin Area Hospital were managed by different Trusts, they were nevertheless both operating as providers of services to the same WHSSB, and operating in that geographical area.

561. In a document provided to the Inquiry by the Health and Social Care Board ('HSC') Dr. McConnell, Director of Public Health at the WHSSB, is recorded as expressing his misgivings about the choice of Dr. Quinn because of concerns about his independence:

> *"Dr. McConnell advised [Mr. Mills] that Dr. Quinn could certainly review the notes and indeed, this may be helpful given that he had provided paediatric clinics to Tyrone County and Erne Hospitals prior to the appointment of Consultant Paediatricians in Sperrin Lakeland Trust. However, he cautioned Mr. Mills that such a review would not be seen as "independent" as Dr. Quinn would be seen as being too close to the situation. A wider review through the Royal College of Paediatrics and Child Health would be required."*[665]

562. Mr. Mills explained in his PSNI interview[666] that he selected Dr. Quinn because he was well respected and he has pointed out that he did not do clinics in Erne Hospital at the time. He has also stated that he wanted a view independent of that from the RBHSC because they had been involved in Lucy's care. Dr. Kelly and Dr. Anderson reported in their PSNI interviews[667] that they were not involved in the selection of Dr. Quinn and did not know him.

563. The challenge to Dr. Quinn's independence may be further considered at the Oral Hearings.

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664 Ref: 250-003-059, para 249
665 Ref: 318-002-001
666 Ref: 116-049-008 and& Ref: 116-049-009
667 Ref: 116-044-003 and& Ref: 116-031-009

Dr. Quinn's Preliminary Views

564. Dr. Quinn had a telephone discussion with Mr. Fee on 2nd May 2000.[668] In this conversation, he appears to have given his preliminary views. We cannot obtain a full sense of the conversation from this record, but he appears to make the following points:

(i) It was "*difficult to get a complete picture of the child*".

(ii) The type of fluids given was appropriate

(iii) He would have expected Lucy to have been given the fluid at a rate of 80 ml/hr.

(iv) He had calculated that she received fluid at a rate of 80 ml/hr on the basis of the amount of fluids received "*divided over the length of stay…*"

565. Why the fluids were discussed in this way, rather than by examining the rate of administration from the point in time when IV fluids commenced, is not otherwise explained. As we shall see below, this analysis was repeated in Dr. Quinn's written report.

566. On 15th May 2000, prior to the completion of the review, Dr. Kelly advised Dr. McConnell of the Western Board that Dr. Quinn had indicated that "*the fluid regime was probably irrelevant…*"[669] The communication which took place between the Trust and officers of the WHSSB will be examined in greater detail below.

Concerns Regarding Dr. O'Donohoe

567. In a related development on 5th June 2000, Dr. M. Asghar[670], Staff Grade Paediatrician at the Erne Hospital, wrote to Mr. Mills in order to report his concerns about Dr. O'Donohoe's treatment of Lucy, as well as other issues.[671] In his letter, he explained that "*this child may have been given excess of fluids*" and that "*all through the night fluids were running at 100 mls per hour*". Dr. Asghar was advised that Dr. Kelly had been asked to commence a review of Dr. O'Donohoe's clinical work.[672]

568. Dr. Quinn has stated that he had not been told of Dr. Asghar's concerns regarding Dr. O'Donohoe. Dr. MacFaul has observed that the review team did not document the concerns raised by Dr. Asghar in their report.[673]

668 Ref: 036a-053a-129
669 Ref: 036a-046-099
670 See List of Persons Ref: 325-002-001
671 Ref: 032-090-175
672 Ref: 032-089-173
673 Ref: 250-003-064

Provision of the Post-Mortem Report

569. Dr. Quinn met with Dr. Kelly and Mr. Eugene Fee on 21st June 2000.[674] The notes of that meeting record that Dr. Quinn was shown and commented on the post-mortem report of Dr. O'Hara. Dr. Quinn has since accepted the note to be an accurate summary of what was discussed, save for a few points. The following was noted:

(i) The choice of fluid was correct.

(ii) The replacement rate of 100ml/hr for 4 hours was greater than normal (80ml/hr) for a moderately dehydrated (10%) child, but not grossly excessive.

(iii) "*Dr. Quinn does not feel that the extra fluids caused the brain problem.*" Dr. Quinn has since clarified this note, stating that he did not consider the amount of fluid that was recorded as having been administered before 03:00 was sufficient to cause such a degree of cerebral oedema as to lead to coning.

(iv) 250ml of normal saline was administered after the seizure. (Dr. Quinn has since said that he has no recollection of being informed of this figure). The choice of normal saline was reasonable, but the rate was high.

(v) Query whether a hypoxic event caused the cerebral oedema.

(vi) Query whether earlier seizures resulting in hypoxia for 15-20 minutes prior to a catastrophic "seizure event"

(vii) Rotavirus was present and caused the diarrhoea, but does not appear to be very significant.

(viii) Dr. Quinn had no great concerns regarding bronchopneumonia as it would common for this to happen and the diagnosis can be very difficult in this size of infant until a chest x-ray is performed.

(ix) Events remain unclear. The post-mortem report does not help piece together why this child died.

570. Dr. Quinn has since stated that, in his recollection of the discussion held at that meeting, in respect of possible causes of cerebral oedema:

"I did discuss the possible causes of cerebral oedema. As I recall this included:

(i) *The use of N/5 (0.18%) saline and the volume given*

674 Ref: 036a-047-101

(ii) *The possibility of hypoxia-at the time of the fit/collapse.*

(iii) *The possible large volume of N saline given (0.9%)*

(iv) *The efficiency of the resuscitation.*

(v) *The possible apnoea, and therefore hypoxia as a result of the rectal diazepam."*[675]

571. The notes also show that he was asked whether consideration should be given to the temporary suspension of Dr. O'Donohoe. He is recorded as stating that he saw no reason for suspension.[676] The issues raised by the case are more about recording fluid prescriptions carefully and ensuring clarity of instruction.

572. Dr. Kelly met with Dr. O'Donohoe on 28th June 2000 to discuss the views that had been expressed by Dr. Quinn.

573. Subsequently, Dr. Quinn told the PSNI in a statement that he had not been given a copy of the post-mortem report. Moreover, he stated that when asked whether Dr. O'Donohoe should be suspended he said that this was not a matter for him.[677]

574. At this juncture, it might be noted that Dr. O'Donohoe commented on the post mortem report in a short handwritten letter to Dr. Kelly dated 26th June 2000. In this letter he appeared to express some surprise about the post-mortem findings:[678]

"I don't quite know what to make of the bronchopneumonia and particularly the suggestion it may have been of some duration."

575. Mr. Fee cannot recall his attention being drawn to the views expressed by Dr. O'Donohoe.[679]

Dr. Quinn's Written Report

576. On 21st June 2000, Dr. Kelly and Mr. Fee met with Dr. Quinn to discuss his conclusions.[680] It was at this meeting that Dr. Quinn was asked to commit his report to writing. Dr. Quinn has identified a number of concerns about the accuracy of the record of that meeting.[681]

675 Ref: WS-279/1, p.12 Q.9(d) & p.14 Q9(g)
676 Ref: 036a-047-102
677 Ref: 115-041-004
678 Ref: 036a-051-114
679 Ref: WS-287/1, p.15
680 Ref: 036C-004-007
681 WS-279/1, page 13

577. Dr. Quinn provided a written report to Mr. Fee on 22nd June 2000[682] which was titled 'Medical Report on Lucy Crawford'. It would appear that he was not provided with the reports written by nursing staff or the clinicians involved either before or after writing his report.[683]

578. In the report, he expressed the following views:

(i) Use of Solution No.18 was "*appropriate*"

(ii) The volume administered was not grossly excessive

(iii) In his written report, Dr. Quinn does not set out any explanation of the causation of the cerebral oedema: "*I find it difficult to be totally certain as to what occurred to Lucy in and around 3.00a.m or indeed what the ultimate cause of her cerebral oedema was*."

(iv) However, he stated that he would "*be surprised if those volumes of fluid could have produced gross cerebral oedema causing coning*".

579. Dr. Quinn did not apparently examine other possible causes of the cerebral oedema or debate the significance or otherwise of the recognised hyponatraemia, despite acknowledging that her serum sodium results had gone from 'normal' on admission to 'low' after the seizure.

580. Dr. MacFaul, the Inquiry's expert, considers the omission in Dr. Quinn's report of proper consideration of the relevant mechanisms in the generation of cerebral oedema in Lucy to be a "*major shortcoming*"[684]. He adds that this should have been followed up by the Trust, as it was an indication for further investigation and assessment.

581. Dr. MacFaul has also stated that Dr. Quinn wrongly expressed "*surprise*" that the volumes used could have led to the cerebral oedema, whereas he failed to draw attention as to how hyponatraemia and the rapid fall in blood sodium could have contributed to the cerebral oedema, and failed to state that it could have been caused by high volumes of Solution No.18.[685]

582. Dr. MacFaul considers that, if a different fluid had been used, the overall volume was not excessive. However, he has emphasised that Solution No.18 was "*the wrong fluid*" for Lucy's condition and thus the rate and volume were also inappropriate. He considers that, as fluid management is a fundamental part of consultant general paediatric expertise, Dr. Quinn should have recognised this and emphasised this in his report. He has stated that Dr. Quinn erred by failing to advise the Trust that Lucy required intravenous

682 Ref: 036a-048-103

683 At WS-287/1, p.16 Mr. Fee says he cannot recall providing this material to Dr. Quinn. There is no record of it being provided.

684 Ref: 250-003-057

685 Ref: 250-003-013

fluids with a higher sodium content than was contained within the Solution No.18.[686]

583. Dr. MacFaul also criticises Dr. Quinn for not making reference to[687]:

(i) the rate of fall of the blood sodium

(ii) the possibility of a syndrome of inappropriate ADH or

(iii) the contribution which a high volume of low solute fluid infused intravenously may have made

584. Furthermore, Dr. McFaul is concerned by Dr. Quinn's analysis which in part calculates the fluid given to Lucy by reference to the entire length of her time in Hospital pre-seizure, rather than from the time at which the intravenous infusion actually commenced.[688]

585. Overall, Dr. MacFaul has criticised Dr. Quinn's report as *"misleading and essentially wrong."* It is notable that the Coroner subsequently recommended that Dr. Quinn should review the content of the report in the light of the Inquest evidence.[689]

Explanation by Dr. Quinn in his Inquiry Witness Statement

586. Dr. Quinn makes a number of relevant points in his witness statements of November 2012.

587. He reviews his clinical experience of over 30 years and his knowledge of fluid management – from training to taking up consultant appointment and subsequently over many years as a consultant paediatrician. Dr. Quinn states he refers to textbooks, including Nelson and Forfar & Arneil, and other guidance on fluid management. He indicates his knowledge of inappropriate ADH secretion amongst other causes. Finally, he states that he is aware that fluid overload can cause cerebral oedema and that, in certain circumstances, dilute fluid can cause it.[690]

588. Based on clinical experience of administration of fluid to children over the years, he states that he "*did not feel the volume given over the timescale should have so rapidly resulted in a gross cerebral oedema*"[691] and that it "*should not have been sufficient to provide such a degree of cerebral oedema that Lucy coned and had irreversible brain damage*".[692]

686 Ref: 250-003-032
687 Ref: 250-003-055, para 227
688 Ref: 250-003-054, para 213
689 Ref: 013-041-165
690 Ref: WS-279/1, p.25 Q.23(g) & (h)
691 Ref: WS-279/1, p.25 Q.23(i)
692 Ref: WS-279/1, p.15 Q.9(q)

589. Asked whether any consideration had been given to the intravenous infusion of Solution No.18 at a rate of 100 ml/hr having contributed to gross cerebral oedema, Dr. Quinn responded:

"I consider the solution 18 administration could have contributed to the cerebral oedema but it cannot be considered in isolation. All of the fluids given to Lucy could have contributed to the cerebral oedema including whatever proportion of 500 ml of N saline was given at the time of the collapse around 3 AM."[693]

590. Dr. Quinn has also been asked by the Inquiry to clarify whether he gave any consideration to what might have caused the drop in sodium. He has answered as follows:

(i) *"Consideration was given to the use of N/5 saline at around 100 ml per hour for 4 hours. I was also specifically asked by Mr. Fee what part the diarrhoea could have had as a cause of the sodium loss. I considered inappropriate ADH as the cause of the decreased sodium. My conclusion was that all 3 could have contributed."*

(ii) *"I had been aware of rapidly falling serum sodium being a risk factor for cerebral oedema since my early paediatric career, particularly in relation to hypernatremia dehydration treatment."*[694]

591. It is unclear why such views were not contained in Dr. Quinn's report for the Trust.

592. Dr. Quinn also confirms that he was aware of the result showing a sodium of 127 mmol/hr taken in the early hours of 13th April 2000 but makes no comment on the point that the sample was taken after the infusion of normal saline.

593. Dr. Quinn states later that he had advised the Trust that additional specialist reports should be obtained. Dr. MacFaul in turn states that, if this was his recommendation, it is arguable that Dr. Quinn should not have provided a written report or when doing should have included this in his report. Dr. Quinn states that he had advised Mr. Mills to do so but there is no record of this:

"As far as I can remember, this recommendation was made to Mr. Mills by telephone. To the best of my recollection I had 2 telephone calls with Mr. Mills and I believe that the recommendation with regard to obtaining a consultant paediatrician from outside the Western board area was made during the second call. I am unable, however, to recollect the dates of either of those telephone calls."[695]

693 Ref: WS-279/1, p.26 Q.23(l)
694 Ref: WS-279/1, p.27 Q.25(b) & (c)
695 Ref: WS-279/1, p.11 Q.8(i)

594. As noted above, Mr. Mills has refuted the suggestion that he was told to consider retaining another consultant paediatrician. In answer to the question of whether the Trust should have considered a further investigation into the issues surrounding Lucy's treatment and death, he has suggested that this was done through the process of external review commissioned from the RCPCH.[696] This process is examined in detail below.

595. Dr. Kelly has indicated that he considered the review report to be *"comprehensive"* and that accordingly he gave no consideration to arranging a further investigation, notwithstanding the fact that Dr. Quinn's findings regarding the cause of the cerebral oedema were inconclusive.[697]

596. Dr. MacFaul has criticised the Trust for not taking further action in the form of setting up a process of further investigation, by way of external review.[698] Whether the senior management team, including Mr. Mills and Dr. Kelly, should have taken steps to initiate further investigative action is an issue which will be considered at the Oral Hearings.

597. As the Trust expected the Coroner to be involved (as did Dr. Quinn from his 2012 witness statement), Dr. MacFaul believes the Trust should also have taken steps to assist the Coroner in his enquiries by informing the Coroner of both Dr. Quinn's views and the findings of the Trust review report.[699]

XVIII. Case Review Report

598. It is noteworthy that Dr. Anderson has described himself as Mr. Fee's assistant during the review, with Mr. Fee adopting the primary role.

599. On his own account, Dr. Anderson's involvement in conducting the work of the review and setting its direction appears to have been minimal. This is reflected in a number of facets of the review's work. For example, he had no dealings at all with Dr. Quinn.[700] He was unaware of Dr. Quinn's methods of enquiry.[701] Moreover, when asked what consideration was given to seeking the views of the clinicians who treated Lucy in the RBHSC, he has told the Inquiry that he *"was not involved and [does] not know"*.[702]

600. Ultimately, Dr. Anderson states that he was asked by Mr. Fee to write his own report.[703] A draft Review Report was enclosed in a letter from Mr. Fee to Dr. Anderson on 5th July 2000 and Dr. Anderson was invited to comment and/or

696 Ref: WS-293/1, p.16
697 Ref: WS-290/1, p. 19
698 Ref: 250-003-014
699 Ref: 250-003-015
700 Ref: WS-291/1, p.14
701 Ref: WS-291/2, p.4
702 Ref: WS-291/1, p.15
703 Ref: WS-291/1, p.16

amend it.[704] Mr. Fee has stated that he cannot recall why they did not write a joint report. He suggests that it was *"probably for practical reasons"*.[705]

601. Dr. Anderson gave his opinion in writing on 17th July 2000.[706] This document, comprising two pages, would appear to be what Dr. Anderson has referred to as his *"own report"*. Within that 'report', Dr. Anderson set out certain recommendations and observations which were incorporated within the final report dated 31st July 2000[707].

602. In his correspondence of 17th July 2000, Dr. Anderson made the following point about Dr. Quinn's report:

> *"I found that the report by Dr. Quinn, whilst helpful in the sense that it ruled out any obvious mis-management on the part of our medical/nursing staff at the hospital, was also evidence of the fact that there was no clearly obvious explanation for the child's sudden deterioration…"*[708]

603. Dr. Anderson has been asked, in the absence of a clear explanation for Lucy's deterioration, whether he gave consideration to what further steps the Trust could be taking to clarify the situation. He has told the Inquiry that after completion of the review report he had no further involvement.[709] He does not know whether the Trust gave consideration to carrying out further investigation.[710]

604. Dr. Anderson cannot recall meeting with Mr. Fee to carry out any analysis of the information received as part of the review before the final review report was published.[711] By contrast, Mr. Fee has stated that they met on 31 July 2001to agree the final report.[712]

605. Dr. MacFaul, having considered the materials available to the Inquiry has expressed a concern that the review team failed to analyse or reconcile the various accounts that were given, assemble a chronology, summarise the fluid administered, or clarify uncertainties.[713]

606. Moreover, Dr. MacFaul has also identified a failure on the part of the review team to carry out an analysis of responses to requests for information from the treating clinicians and nurses, and a failure to reconcile differences or omissions.[714]

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704 Ref: 034-029-082
705 Ref: WS-287/1, p.17
706 Ref: 033-101-258
707 Ref: 033-102-262
708 Ref: WS-291/1, p.16
709 Ref: WS-291/1, p.16
710 Ref: WS-291/1, p.18
711 Ref: WS-291/1, p.16
712 Ref: WS-287/1, p.18
713 Ref: 250-003-013
714 Ref: 250-003-062

Findings

607. The final review report found that there was a significant communications issue in that Dr. O'Donohoe and the nurses who had been on duty had different understandings of his intended prescription of fluids, there was no adequate record and that there was a need for standard protocols for treating patients in Lucy's condition and for ensuring accurate prescribing.

608. The report rehearsed Dr. Quinn's view that the total volume of fluid intake was within the accepted range[715] and it was stated that,

> *"Neither the post-mortem result or the independent medical report on Lucy Crawford, provided by Dr. Quinn, can give an absolute explanation as to why Lucy's condition deteriorated rapidly, why she had an event described as a seizure at around 2.55am on 13th April 2000, or why cerebral oedema was present on examination at post-mortem."*[716]

609. Mr. Fee now accepts that the review which was conducted was unsatisfactory. In particular, he recognises that the family should have been involved from the outset "*and the review should have been conducted using a more systematic approach*". He has stated that too much reliance was placed on external opinion in circumstances where the review team did not have the expertise to examine the opinion provided. He has also accepted that the case should have been "jointly reviewed" by involving the RBHSC. However, he has insisted that the approach adopted "*was consistent with the approach used in N. Ireland at that time*".[717]

610. Dr. Kelly has also commented that applying the standards of the time, he is of the view that the review and the review report are "reasonable." He has stated that "with the benefit of hindsight" other steps would be taken including arranging for the involvement of the family, and the inclusion of clinicians in the RBHSC.[718]

611. It is the case, however, that Dr. MacFaul believes that such steps should have been taken, applying the standards of the time when the review was undertaken.

Recommendations

612. The recommendations suggested by Dr. Anderson were:[719]

(i) The need for prescribed orders to be clearly documented and signed by the prescriber;

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715 Ref: 033-102-267
716 Ref: 033-102-265
717 Ref: WS-287/1, p.20
718 Ref: WS-290/1, p.21
719 Ref: 033-102-268

(ii) The importance for standard protocols to be readily available in the ward against which treatment can be compared;

(iii) That all team members involved in the care of the child, on the night in question, would probably benefit from a joint meeting and discussion of this report / findings; and

(iv) That it would be appropriate for another meeting with the family to apprise them of all of the knowledge and opinions that they had at this point.

Implementation of the Recommendations

613. The recommendation that there was a need to make improvements around the documentation for fluid prescribing and in relation to protocols was addressed by Trust management during PSNI interviews and by witnesses who provided statements to the PSNI. It is unclear whether any changes were forthcoming as a result of implementing the review's recommendations, or whether change flowed from the guidance which was developed by the Department of Health in the aftermath of Raychel Ferguson's death.

614. Consideration of the documentation generated by the PSNI investigation would tend to indicate that at least some of the other recommendations were not implemented: a team meeting did not take place for the purposes of discussing the report / findings and a meeting did not take place with the Crawford family. It is the case that a meeting was offered to the Crawford family, but only after a complaint had been lodged at which point they were told about the review.

615. It is also apparent that not every area of concern which had been identified within the report was covered by a recommendation.

616. Mr. Mills stated that he believed that Mr. Fee had met with the medical and clinical staff to share the Review's outcomes[720], but Mr. Fee does not recall such action.[721]

617. Dr. Kelly stated that he expected Mr. Fee, Dr. Anderson (Clinical Director) and Mrs. Millar (Clinical Services Manager) to "*ensure that the issue of fluid prescription was addressed*".[722] However Dr. Anderson was not aware of any action taken by the Trust on the findings of the Review[723], and he gave it no further consideration.[724]

720 Ref: WS-293/2, p.4
721 Ref: WS-287/1, p.18
722 Ref: WS-290/1, p.18
723 Ref: WS-291/1, p.27
724 Ref: WS-291/2, p.55

618. The Review was not considered at Trust Board level, although it was discussed with the Trust Chairman.[725]

619. Dr. MacFaul states that Dr. Anderson, as the Clinical Director for Women's and Children's Services, should have taken the following action with regard to the recommendations of the review (or delegated to a lead member of staff) the following:

(i) conducted the meeting with the team,

(ii) ensured that the meeting with the parents was set up (and attended it),

(iii) that protocols were set up,

(iv) that documentation was improved and set up audits to monitoring change over the ensuing few months.[726]

620. Dr. MacFaul adds that training of medical and nursing staff on prescriptions, documentation and use of ward guidance should have taken place. He has also stated that an audit process should have been established to monitor implementation or improvement in relation to the points identified by the review.[727] It is unclear to the Inquiry what particular steps were taken by the senior management team of the Trust to monitor implementation and improvement.

621. Dr. MacFaul is also concerned that the Trust management failed to take steps to ensure that the report of the review was shared with the Trust staff who had contributed to it in order to seek their views on its conclusions and recommendations.[728] He is also of the view that it should have been shared with Dr. Quinn, as considering all of the collected evidence may have affected his conclusions.[729]

622. Mr. Fee told the PSNI that he accepted that there were shortcomings in some of the *"follow through"* after the completion of the review.[730] It is unclear what procedures were or ought to have been in place to ensure that all of the lessons to be derived from the review were identified, understood, disseminated and recommendations implemented.

623. The Review was not considered at Trust Board level, although it was discussed with the Trust Chairman.[731] Dr. MacFaul has noted that while the report was in the possession of senior managers such as Mr. Mills and senior

725 Ref: WS-293/1, p.16
726 Ref: 250-003-065, para 289
727 Ref: 250-003-014
728 Ref: 250-003-014
729 Ref: 250-003-063
730 Ref: 116-032-011
731 Ref: WS-293/1, p.1616

clinicians such as Dr. Kelly, there is no record of a response from either of them to the review report.[732]

624. Dr. MacFaul has observed that Dr. Kelly must have known (at least by the time when the review report was published) that the review team had not approached the clinicians at the RBHSC,[733] yet no attempt was made to seek their views. Furthermore, Dr. MacFaul is of the view that it was Dr. Kelly's responsibility as Medical Director to share the findings of the review with the Coroner, particularly since he believed that Inquest was going to take place.[734] This was not done.

XIX. RCPCH Reviews of Dr. O'Donohoe

First RCPCH Review

625. On 16th July 2000, Dr. Kelly made contact with Dr. Moira Stewart[735], Consultant Paediatrician, who at that time was the regional advisor in Northern Ireland for the Royal College of Paediatrics and Child Health ('RCPCH'). According to his witness statement, Dr. Kelly discussed with Dr. Stewart the Trust's need for independent external assistance to assess the competency and conduct of Dr. O'Donohoe.[736]

626. On 14th September 2000, Dr. Kelly wrote formally to Dr. Patricia Hamilton (Honorary Secretary of the RCPCH) to ask the College to conduct an external review in relation to Dr. O'Donohoe's competence and conduct.[737]

627. On 9th November 2000, Ms. Hamilton responded, indicating that Dr. Stewart had agreed to be the nominated College representative to carry out the review.[738]

628. By 25th January 2001, when Dr. Stewart wrote to Dr. Kelly, little progress had been made with the review.[739] Four months after the initial contact with the RCPCH, and some nine months after Lucy's death, Dr. Stewart had not yet worked through the relevant case notes, nor met with any of the individuals involved.

629. On 26th April 2001, Dr. Stewart had completed a review and submitted a report to Dr. Kelly.[740] Dr. MacFaul has noted the delay in producing this

732 Ref: 250-003-066, Para 296
733 Ref: 250-003-078
734 Ref: 250-003-098, para 504
735 See List of Persons Ref: 325-002-001
736 Ref: WS-290/1, p.6
737 Ref: 036a-009-016
738 Ref: 036a-010-019
739 Ref: 036a-015-050
740 Ref: 036a-022-039

report.[741] The reasons for the delay are not clear, and will be the subject of scrutiny at the Oral Hearings.

Conclusions of the Review

630. As part of her review, Dr. Stewart examined four cases in which care had been provided to patients by Dr. O'Donohoe, including the case of Lucy Crawford.[742] She examined Lucy's case by reference to the clinical notes, the post-mortem report and the report provided by Dr. Murray Quinn.[743] She did not have access to the documents which were included as appendices to the review carried out by the Trust.[744]

631. Dr. Stewart has explained that the nature of her task was "*to review the case notes of 4 children with regard to any concerns about care delivered by the consultant involved in the 4 cases*"[745] and **not** to prepare:

> "*a comprehensive medical report on any individual child but [rather] to comment on overall management of the children by a general paediatrician, as documented in case notes provided by Sperrin Lakeland Trust.*"[746]

632. At some point between receiving Lucy's case notes from the Trust and preparing her report, Dr. Stewart spoke to Dr. Quinn.[747] She appears to have spoken to him about her concerns in relation to Lucy's fluid management, concerns that he did not share. She was interested to know whether Dr. Quinn had access to the information to support his conclusions, which she was not in possession of. It is her recollection that Dr. Quinn expressed himself satisfied with the conclusions reached in his report. She concluded that she and Dr. Quinn had agreed to differ in relation to their view of Lucy's management.

633. In her report of 26th April 2001, Dr. Stewart, explained that it was difficult to "*determine the nature of the episode*" which had occurred at around 02:55 hours on 13th April 2000.[748] She indicated that there were several possible explanations:

(i) Lucy had suffered a febrile seizure which had continued and which led to hypoxia and cerebral oedema.

(ii) She had suffered a seizure like episode due to an underlying biochemical abnormality. While she noted that "*biochemical changes are often well tolerated*", the results in Lucy's case demonstrated "*a change*

741 Ref: 250-003-068, para 306
742 Ref: 036a-025-052
743 Ref: 036a-025-052
744 Ref: WS-298/1, p.5
745 Ref: WS-298/1, p.5
746 Ref: WS-298/1, p.5
747 Ref: WS-298/2, p.2
748 Ref: 036a-025-056

over a relatively short period of time" and thus the episode was due to cerebral oedema and coning.[749]

(iii) She had "*an additional abnormality which was not detected at post mortem*" although Dr. Stewart appeared to discount this.[750]

634. Dr. Stewart gave detailed consideration to the fluid regime which had been applied to Lucy. She stated that the volume of fluid provided to Lucy "*does not appear excessive.*"[751] She implied but did not state expressly that the wrong fluids had been given to Lucy ("*there is debate about the most appropriate fluid to use")*, although she correctly referred to the APLS guidelines and highlighted the fact that deficit should be replaced with normal saline.

635. Dr. Stewart noted that after Lucy experienced respiratory arrest, fluids were changed to normal saline. She noted that the clinical notes indicated that 500ml were given over an hour. She stated that "*a volume of 20mg/kg would be indicated in a 'shock' situation"* (Lucy had been given more than twice that volume) and noted that the *"measurements"* did not indicate that Lucy was shocked.[752] However, she did not expressly criticise the use of normal saline or otherwise comment on the grossly excessive amount of normal saline which had been given.

636. In the summary section of that part of her report dealing with Lucy, Dr. Stewart did not offer an opinion with regard to the underlying cause of her cerebral oedema. However, she suggests that the management of Lucy's fluids may have been relevant:

> *"This little girl was admitted to the Erne Hospital in April 2000 and had a respiratory arrest 8 hours later, from which she never regained consciousness. Subsequent results indicate that she had gastroenteritis due to rotavirus (she may also have had bronchopneumonia). Initial investigations indicate that she was quite ill on admission, with a degree of circulatory failure. There was a delay in implementing fluid resuscitation and there are deficiencies in the prescription and recording of volumes of fluids administered. The subsequent events which occurred about 8 hours after admission were likely to have been preterminal and on the basis of cerebral oedema and coning."*[753]

Meeting between Dr. Stewart and Dr. Kelly

637. Dr. Stewart and Dr. Kelly met on 31st May 2000 to discuss her report. Dr. Kelly compiled what he has described as *"very brief notes of key questions being*

749 Ref: 036a-025-056 & 057
750 Ref: 036a-025-059
751 Ref: 036a-025-058
752 Ref: 036a-025-058
753 Ref: 036a-025-060

asked and discussions in relation to the case".[754] The note sets out the questions which Dr. Kelly had prepared prior to the meeting as follows:[755]

(i) Was the delay to IV fluids significant? Was there sufficient attention to fluid balance?

(ii) Was it reasonable to push oral fluids in the first hours of admission?

(iii) Dr. O'Donohoe came in from home to insert IV line after SHO attempts – nurses report this in a positive light – not failure of care?

(iv) Should a urea of 9.9 given rise to major concerns? It corrected to 4.9 within hours.

(v) Do you really think that the electrolyte changes caused the seizure?

638. Rather than note the individual answers to each of these questions, Dr. Kelly has noted the answers compendiously:

"A1-5 Capillary refill time, raised urea and CO2 level point to circulatory failure. IV fluids were indicated earlier. Overall amount of fluids once started not a major problem but rate of change of electrolytes may have been responsible for the cerebral oedema. RVH ward guidelines would recommend N-saline not 1/5th normal as the replacement fluid."[756]

639. The notes from the meeting also express the view that there was "*insufficient suboptimal practice to justify referral to GMC*".[757]

640. In her Inquiry witness statement, Dr. Stewart has commented on Dr. Kelly's note of the meeting as follows:

"This is a brief summary of a much longer conversation. I do remember him asking me if I really thought the electrolyte disturbances had caused the seizure (Q5) and I said an unequivocal "yes". From recall, I then went on to elaborate on guidelines for type of fluid for replacement of dehydration and for treatment of "shock"…"[758]

641. Dr. Stewart has denied referring to "*RVH ward guidelines*" during her discussion with Dr. Kelly, and has noted that her report referred to APLS guidelines for fluid management.

642. In her Inquiry witness statement, Dr. Stewart went on to address what she meant by the view contained in her written report, and also attributed to her in Dr. Kelly's note of the meeting, that the "*overall amount of fluids once started not a major problem.*" She answered as follows:

754 Ref: WS-290/1, p.23
755 Ref: 036a-027-067
756 Ref: 036a-027-067
757 Ref: 036a-027-068
758 Ref: WS-298/1, p.11

"…My opinion is that a volume of at most, 400ml, given to a child with evidence of shock over 4 hour period, including resuscitation, maintenance and replacement fluids would not usually be excessive – but that the exclusive use of hypotonic fluids i.e. Solution 18 led to rapid fall in sodium and resulted in acute deterioration around 3am or thereabouts."[759]

643. Dr. Stewart was also asked to address in her witness statement the concern that "*the rate of change of electrolytes may have been responsible for the cerebral oedema*". Referring to her meeting with Dr. Kelly she stated:

"I explained the guidelines in general use for children presenting with shock and/or dehydration, and that use of hypotonic solution 18 would not have been indicated as sole infusion fluid. I was and am aware of the problems associated with abnormal electrolyte levels in children and in particular, rapid changes in values."[760]

644. Importantly, Dr. Stewart was asked to address in her witness statement whether she told Dr. Kelly what had caused the rate of change of electrolytes in Lucy.

645. She has stated that her recollection is that she said to Dr. Kelly, "*that the change in electrolytes resulted from administration of Solution 18.*" She has stated that, in her view, Dr. Kelly's note of the meeting alludes to this view.[761] She also recalls that the differences between the conclusions which she reached and the conclusions which were reached by Dr. Quinn were discussed at her meeting with Dr. Kelly.[762]

646. If Dr. Stewart was able to conclude in April / May 2001 that the change in Lucy's electrolytes was precipitated by the administration of Solution No.18, the Inquiry will wish to consider at the Oral Hearings why, this conclusion was not capable of being reached by others with much the same information as was available to Dr. Stewart, either at the time of Lucy's death or very shortly thereafter.

647. Moreover, the Oral Hearings will also examine whether Dr. Stewart clearly articulated this view to Dr. Kelly, and if so, what the Trust ought to have done with this information.

648. In his witness statement to the Inquiry, Dr. Kelly explained that Dr. Stewart told him at the meetings that "*a young child's brain was much more susceptible than an adult's to changes in electrolytes and so the fall to 127 may have been significant*".[763]

649. In the context of his discussions with Dr. Stewart, Dr. Kelly was also asked to explain his understanding of what might have caused the rate of change of

759 Ref: WS-298/1, p.11
760 Ref: WS-298/1, p.12
761 Ref: WS-298/1, p.12
762 Ref: WS-298/2, p.2
763 Ref: WS-290/1, p.23

electrolytes. He has stated that he cannot recall *"giving specific consideration to this issue but concluded that the rate of change may have been due to underlying gastroenteritis and bronchopneumonia".*[764]

650. It is unclear how Dr. Kelly reached the conclusion that the fall in electrolytes was due to gastroenteritis and bronchopneumonia, He does not attribute this conclusion to any view expressed by Dr. Stewart. However, he has said that the discussion with Dr. Stewart *"did not identify any specific cause for the fall in electrolytes"* and he is clear that *"there was no suggestion that hypotonic fluids had most likely caused this change."*[765]

651. Dr. Kelly does accept that at the meeting he discussed with Dr. Stewart how fluids are to be used. He has recalled that he was told by Dr. Stewart that "*there had been considerable recent debate on the best resuscitation and rehydration regimes and the RBHSC had changed its guidelines in recent years*".[766]

652. It is plain that there is a factual dispute between Dr. Kelly and Dr. Stewart, particularly around the question of whether it was said at the meeting that the use of Solution No.18 caused the fall in electrolytes. This is an issue which will be further considered during the Oral Hearings.

653. Despite what he has said about the failure of Dr. Stewart to identify a specific cause for the fall in Lucy's electrolytes, it is notable that Dr. Kelly has also told the Inquiry that it was partly as a result of his discussion with Dr. Stewart that he *"became aware that the hypotonic fluids administered to Lucy may have contributed to the cause of her cerebral oedema."*[767]

654. The other factor which apparently triggered this awareness was the information shared at a Medical Directors Group Meeting about the circumstances surrounding the death of Raychel Ferguson.

655. This meeting took place on 18th June 2001. At that meeting, Dr. Kelly spoke to Dr. Fulton (Medical Director, Altnagelvin Hospital) who advised him that it appeared from Altnagelvin's investigations that Raychel's death *"was due to an excess of Solution No. 18."*[768] They also discussed the fact that the RBHSC had changed its guidelines on the use of Solution No.18, a fact Dr. Kelly has said he uncovered while investigating Lucy's case, and which caused him concern.

656. Dr. Kelly has been asked whether, at that time (June 2001), he considered that there were similarities between the cause of Raychel's death and the cause of

764 Ref: WS-290/1, p.23
765 Ref: WS-290/1, p.23
766 Ref: WS-290/1, p.23
767 Ref: WS-290/2, p.4
768 Ref: WS-290/1, p.24

Lucy's death. He has stated that at that time he did not consider Lucy's death *"a clear cut case relating to hypotonic fluids."*[769]

657. Dr. MacFaul has observed that *"given his recent discussion with Dr. Stewart, arguably Dr. Kelly could have concluded that Lucy's death may have been similarly caused."*[770]

Dr. MacFaul's Observations on Dr. Stewart's Report

658. The conclusions reached by Dr. Stewart, and how she communicated those conclusions in her report for the Trust have been considered by the Inquiry's expert, Dr. MacFaul.[771]

659. Dr. MacFaul is of the view that Dr. Stewart failed to state clearly in her report that an excessive volume of Solution No.18 had been administered. Rather, he suggests, it was left to the reader of the report *"to interpret her opinion."* He also notes that Dr. Stewart did not comment on whether the volume of normal saline administered was appropriate.[772]

660. Dr. MacFaul states that, while Dr. Stewart advised Dr. Kelly of her view that the appropriate fluid regime was a bolus of normal saline at 20ml/kg, followed by 0.45% NaCl in 5% dextrose at 70-80 ml/hr, she did not go on to explain how the fluids that were administered to Lucy could have caused the hyponatraemia:

> *"It would have been preferable for Dr. Stewart to have provided a specific explanation of how the hyponatraemia and the rate of change in electrolytes could have resulted from high volume used of low solute number 18 solution. In my opinion she should have set out how high volume of low solute fluid together with the saline overload could all have combined to contribute to or cause cerebral oedema and to explain more clearly in her written report how the hyponatraemia was produced."*[773]

661. Against this, Dr. MacFaul is of the view that Dr. Stewart's report provided the Sperrin Lakeland Trust with *"sufficient information…to identify that the intravenous fluid treatment given to Lucy could have contributed to her death".*[774]

662. Moreover, as has been discussed above, Dr. Stewart has made it clear that she recalls implicating the use of Solution No.18 when she discussed her report with Dr. Kelly on 31st May.

663. Dr. MacFaul also notes[775] that, within her report, Dr. Stewart interpreted the clinical notes as showing that *"at 3.00am, and after administration of 0.18% NaCl,*

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769 Ref: WS-290/1, p.25
770 Ref: 250-003-080, para 389
771 Dr. MacFaul has provided a detailed commentary on Dr. Stewart's report in Annex A from 250-004-012 to 250-004-021
772 Ref: 250-003-071, para 335
773 Ref: 250-003-074, para 346
774 Ref: 250-003-074, para 347

the repeat sodium was 127."[776] She makes no mention in her report of the fact that the blood sample which produced this result were only taken after a quantity of normal saline had been run in.

664. Dr. Stewart has stated in her witness statement for the Inquiry that she made an assumption that the repeat bloods were checked at or about 03:20.[777] It is unclear why she did not take steps to clarify the position. Moreover, it is unclear whether she fully considered the nursing notes which show that repeat urea and electrolyte tests were ordered after IV fluids had been changed to normal saline.[778]

665. Dr. MacFaul suggests that Dr. Stewart *"did not have enough information"*[779] to appreciate fully the proper sequence of events, although whether this was actually the case, and whether any lack of clarity effected her overall conclusions, are issues to be further examined during the Oral Hearings.

666. Dr. MacFaul has also commented on Dr. Stewart's opinion contained in her report that the volume given did not appear *"excessive"*.[780] He has calculated Lucy's fluid needs based on her admission weight of 9.14kg, and assuming a dehydration of 7.5%, as being no more than 67ml/hr.[781]

667. Even allowing for a weight of 10kg for ease of calculation, which Dr. MacFaul characterises as *"a slightly unusual way of calculating fluid but not a significant overestimate"*[782], Dr. MacFaul considers that Lucy ought not to have received more than the 70-80ml/hr calculated by Dr. Stewart.

668. Therefore, Dr. MacFaul considers that the 100ml/hr of Solution No.18 was excessive, in contrast to Dr. Stewart's view, and was compounded by a *"a very large and excessive volume of 250-500ml of normal saline."*[783]

669. The question of whether Dr. Stewart was correct to advise the Trust that the volume given did not appear to be excessive is an issue which will be further explored during the Oral Hearings.

Second RCPCH Review

670. On 7th February 2002, Dr. Kelly wrote again to Dr. Patricia Hamilton to ask the College to assist with providing an external competency review of the practice of Dr. O'Donohoe.[784] Dr. Kelly noted that there had been *"ongoing*

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775 Ref: 250-004-017
776 Ref: 036a-025-056
777 Ref: WS-298/1, p.7
778 Ref: 027-017-057
779 Ref: 250-004-017
780 Ref: 036a-025-058
781 Ref: 250-004-018
782 Ref: 250-004-018
783 Ref: 250-003-037
784 Ref: 036a-129-273

concerns in relation to the performance of Dr. O'Donohoe".[785] On this occasion, Dr. Kelly requested the involvement of a visiting paediatrician who should be in a position to avail of the opportunity to discuss issues with the wider clinical team.

671. On 18th March 2002, Dr. Hamilton advised Dr. Kelly that the College was prepared to provide an external competency review of Dr. O'Donohoe.[786] She indicated that the Chair of the College's General Paediatric College Specialty Advisory Committee, Dr. Andrew W. Boon[787], Consultant Paediatrician,[788] would conduct the review with Dr. Stewart.

672. Dr. Kelly was referred to the RCPCH protocol for external clinical advisory team visits.[789].

673. On 7th August 2002, Dr. Boon issued Dr. Kelly with a copy of the RCPCH external review report.[790] When conducting their review, Drs. Boon and Stewart had access to some documentation which was not made available to Dr. Stewart at the time of her earlier review, including correspondence between Dr. Kelly and Dr. Asghar and the report of the review carried out by Mr. Fee and Dr. Anderson. They also had the opportunity to interview a number of individuals including Drs. Asghar, Kelly, Anderson and Dr. O'Donohoe himself.

674. Whether the failure to provide all of the relevant material to Dr. Stewart at the time of her earlier review constitutes an omission, is an issue to be considered during the Oral Hearings.

Conclusions of the Second Review

675. The review team of Dr. Boon and Dr. Stewart examined a number of cases which concerned allegations of clinical incompetence which had been raised by Dr. Asghar against Dr. O'Donohoe.[791] One of those cases was that of Lucy Crawford. In its findings, the review team identified a number of areas in which *"Dr. O'Donohoe's clinical competency fell below what would normally be expected of a Consultant Paediatrician."*[792]

676. In Lucy's case, Dr. O'Donohoe's shortcoming was described under the heading of *"poor documentation":*

"The prescription for the fluid therapy for LC was very poorly documented and it was not at all clear what fluid regime was being requested for this girl. With the benefit of

785 Ref: 036a-129-273
786 Ref: 036a-134-279
787 See List of Persons Ref: 325-002-001
788 Ref: 036A036a-150-309
789 Ref: 036a-135-281
790 Ref: 036a-149-303
791 Ref: 036a-149-303
792 Ref: 036a-149-306

hindsight there seems to be little doubt that this girl died from unrecognised hyponatraemia although at that time this was not so well recognised as at present"[793]

677. During its investigation of the issues raised by this RCPCH external review, the Legal Team identified the fact that an earlier draft of the above finding had been prepared by Drs. Boon and Stewart. This has been included as an exhibit to the third statement provided by Dr. Stewart.[794] In addition to the finding set out above, the following words were included in the draft:

"More careful attention to detail (sic) of the fluid therapy might possibly have avoided this girl's cerebral oedema and fatal outcome."[795]

678. Dr. Stewart[796] and Dr. Boon[797] have explained that this conclusion was not disclosed to anyone else. Dr. Stewart has explained the process by which this conclusion was omitted from the final version of their report:

"From memory Dr. Boon and I discussed the draft report. We took account of our knowledge that a medico-legal case regarding Lucy Crawford's management in the Erne Hospital was underway and that we had not been asked to contribute to the process. We decided that we should not exceed the remit of the external review which was to examine the professional clinical competency of an individual consultant. There were other professionals involved in Lucy's management but their actions were outside the scope of the review."[798]

679. Dr. Boon has articulated a broadly similar explanation for removing this conclusion from the final report.[799] He has recalled that, before drafting the conclusion, he and Dr. Stewart choose their words with care, and that he still stands by the conclusion which was reached.

680. Dr. Boon and Dr. Stewart have been asked to explain in their respective witness statements what they meant by the use of phrases such as "*with the benefit of hindsight*" and "*unrecognised hyponatraemia*" in the conclusion which they reached.

681. The use of the phrase "*benefit of hindsight*" bears some consideration. It is unclear what new information, if any, was available to Dr. Stewart and Dr. Boon which enabled them to reach this conclusion, and which was not available to others who had earlier examined this matter.

682. In his statement, Dr. Boon noted that, at the time of compiling their report, they were able to analyse medical events by applying information which may not have been available at the time of Lucy's death, such as the article by

793 Ref: 036a-149-306
794 Ref: WS-298/3, p.4
795 Ref: WS-298/3, p.7
796 Ref: WS-298/3, p.2
797 Ref: WS-321/1, p.4
798 Ref: WS-298/3, p.2
799 Ref: WS-321/1, p.4

Halberthal et al (Hyponatraemia in Children Admitted to Hospital) which had been published in the British Medical Journal in 2001.[800]

683. In addition, as has been discussed in the sections above, Dr. Stewart has told the Inquiry that, at the time of providing her original advice to Dr. Kelly in May 2001, she was able to explain to him that the destabilisation of Lucy's electrolytes had been caused by the inappropriate use of a hypotonic solution. In particular, it had been her view at that time that the exclusive use of hypotonic fluids led to a rapid fall in sodium and resulted in acute deterioration.

684. From this account by Dr. Stewart, it appears that she was able to reach certain conclusions without access to, for example, the article produced by Halberthal. As she has stated to the Inquiry, she was aware at the time of providing her advice of the problems associated with abnormal electrolyte levels in children and of the particular problems associated with rapid changes in values. It will be recalled that at the time of producing the first report for the Trust on behalf of the RCPCH, Dr. Stewart only had access to the report of Dr. Quinn, Lucy's case notes and the autopsy report.

685. Dr. Boon has also stated that in terms of their reference to "unrecognised hyponatraemia", they were indicating that it was the case that the hyponatraemia had not been recognised by the paediatricians managing her care.[801]

686. As Dr. Boon acknowledged, it was clear to him that, notwithstanding the poor quality of the documentation in the notes, Lucy had *"suffered an acute neurological deterioration in association with a fall in serum sodium which is consistent with acute cerebral oedema resulting from hyponatraemia."*[802]

687. A fundamental matter to be considered during the Oral Hearings will be the question of whether such a conclusion was capable of being reached by those who had the opportunity to consider Raychel's cause of death two years earlier.

Dissemination of the RCPCH Findings

688. Each of the RCPCH reports were directed to Dr. Kelly. Dr. Kelly has told the Inquiry that he shared the opinions expressed by Dr. Stewart arising out of her first report, with the Chief Executive (Mr. Mills), the Review Team (Mr. Fee and Dr. Anderson) and the lead paediatrician.[803] It is also clear that he sent the report to Dr. McConnell at the Western Health and Social Services Board.

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800 Ref: WS-321/1, p.3
801 Ref: WS-321/1, p.4
802 Ref: WS-321/1, p.4
803 Ref: WS-290/1, p.23

689. As regards the second RCPCH report, Dr. Kelly has stated that he believes that the report was shared with Mr. Fee, Mr. Mills, Dr. Anderson, Dr. Halahakoon, Dr. O'Donohoe, Dr. Asghar and E. Millar.[804]

690. It is noteworthy that the findings reached in the RCPCH reports were not disclosed to the Coroner or to Mr. and Mrs. Crawford.

691. For his part, Mr. Fee does not remember whether he was provided with a copy of either report. He has stated that the conclusions reached in the reports may have been discussed with him but he has no recollection of them being discussed.[805]

692. Dr. Anderson, who was, at the time, the Clinical Director of Women and Children's Services, is clear that he was not provided with a copy of either of the RCPCH reports. He has also stated that the conclusions reached in those reports were not discussed with him.

693. Dr. Kelly met Mr. Mills to discuss Dr. Stewart's report on 23rd May 2001.[806] The note of their meeting records: *"Factual account. No major concern but devoid of opinion. J.K to see her and discuss."* As has been described in the sections above, Dr. Kelly met Dr. Stewart on 31st May 2001, and, on Dr. Stewart's account, she presented her view that fluid mismanagement accounted for Lucy's deterioration.

694. In his witness statement to the Inquiry, Mr. Mills does not refer to the meeting on 23rd May 2001, but he notes receiving Dr. Stewart's report at a meeting with Dr. Kelly on 27th June 2001.[807] The note in respect of that meeting is somewhat illegible but appears to read as follows: *"Report from Moira Stewart. Some case issues. HM to read."*[808]

695. In his witness statement to the Inquiry, Dr. Kelly refers to another meeting with Mr. Mills which took place on 24th July 2001 for "*further discussion of RCPCH report*".[809] The record for that meeting gives no indication of what was discussed.[810] Dr. Kelly does not refer in his witness statement to the meeting on 27th June 2001 mentioned by Mr. Mills, whereas Mr. Mills does not recall the meeting on 24th July 2001 mentioned by Dr. Kelly.

696. Dr. Kelly discussed the report produced by Dr. Stewart with Dr. McConnell of the WHSSB. The import of that discussion will be considered in the section dealing with the WHSSB.

804 Ref: WS-290/1, p.27
805 Ref: WS-287/1, p.20
806 Ref: 030-041-053
807 Ref: WS-293/1, p.18
808 Ref: 030-040-052
809 Ref: WS-290/1, p.8
810 Ref: 030-039-051

697. Dr. Kelly also met with Dr. O'Donohoe on 10th September 2001 to give him Dr. Stewart's report, and they met again on 18th September 2001 to discuss the detail of the report.[811] There is no record that the case of Lucy Crawford was specifically discussed at these meetings.

698. The second review was discussed with Dr. O'Donohoe on 25th September 2002.[812] It would appear that issues relating to specific patients were addressed with Dr. O'Donohoe, although there is no indication within this record about what was said in relation to the treatment of Lucy. Nor does the record indicate whether there was any attempt to address the fact that Lucy's death was now recognised as having been caused by hyponatraemia.

699. Mr. Mills has confirmed that he was in receipt of the second RCPCH report produced by Dr. Stewart and Dr. Boon, but he cannot recall the date on which he received that report, nor does he account for any discussion of the contents of that report.

700. For his part, Dr. Kelly can recall receiving the second RCPCH report, and meeting to share the report and discuss it with both Dr. O'Donohoe and Dr. Asghar. He does not indicate that the report was shared or discussed with anyone else.[813]

701. Dr. Kelly and Mr. Mills have been asked to explain what response was made by the Trust to the reports produced by the RCPCH.

702. Mr. Mills has stated that, since Lucy's case had gone to litigation by the time these reports were received, he *"would have sought assurance that the reports were shared with the Trust's legal representatives for their advice."*[814] It is unclear whether Mr. Mills gave any consideration to sharing the reports with the Coroner or, for that matter, Mr. and Mrs. Crawford.

703. Dr. Kelly has said that, as far as the opinions expressed by Dr. Stewart are concerned, he shared them with key personnel including Mr. Mills. There is no indication in any of the answers given to the Inquiry by Dr. Kelly or Mr. Mills, or in the records of their meetings, that the cause of Lucy's death, as described by Dr. Stewart, was discussed.

704. During the Oral Hearings, it will be important to consider whether Dr. Stewart's views in respect of the cause of Lucy's death were discussed by senior managers within the Trust, and to consider the reasons for any failure to hold such discussions.

705. Dr. Kelly has been asked whether he or anyone else in authority at the Trust gave any consideration to bringing Dr. Stewart's conclusions to the attention

811 Ref: 036a-123-265
812 Ref: 036a-155-326
813 Ref: WS-290/1, p.8-9
814 Ref: WS-293/1, p.18

of the Coroner's Office. He has stated that he did not give consideration to this because he believed that, even as late as August 2002, the Coroner *"was fully aware of the case and would be scheduling an Inquest".*[815]

706. Dr. Kelly has also been asked whether he discussed with anyone the view set out in the second RCPCH report that Lucy "*died from unrecognised hyponatraemia.*" He has stated:

"I do not recall any specific discussions being held in relation to Lucy Crawford's death upon receipt of the Report – discussions on the Report related primarily to addressing the failings within the Paediatric Department and working relationships…"[816]

707. Again, it will be important for the Inquiry to consider at the Oral Hearings whether the clear conclusions reached by Dr. Stewart and Dr. Boon in relation to the underlying cause of Lucy's were discussed by senior managers within the Trust after their report was received, and to establish the reasons for any omission to do so. Furthermore, the Oral Hearings will consider what action, if any, should have been taken by senior management at the Trust following receipt of the review reports commissioned from the RCPCH.

Post-RCPCH Involvement of the Coroner's Office

708. At the time of having received the report from Drs. Stewart and Boon, management of the Trust were aware that an Inquest had not taken place nor was one scheduled. In addition to the report from the RCPCH, the Trust had a medico-legal report from Dr. John Jenkins[817], Consultant Paediatrician (see further below) and it was aware of the circumstances of Raychel's death. Nevertheless and despite the conclusion that Lucy had died from unrecognised hyponatraemia, the findings of that review were not brought to the attention of the Coroner or Lucy's family. It is unclear whether the review's findings were even shared with the Western Health and Social Services Board.

709. As with his approach to the first report, Dr. Kelly has explained that he did not consider reporting the conclusions reached by Dr. Stewart and Dr. Boon to the Coroner's Office because he still believed that an Inquest was to be scheduled.[818]

710. It is unclear why Dr. Kelly continued to believe as late as August 2002, more than two years after Lucy's death, and in the absence of any contact from the Coroner's Office, that an Inquest was going to take place.

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815 Ref: WS-290/1, p.23
816 Ref: WS-290/1, p.28
817 See List of Persons Ref: 325-002-001
818 Ref: WS-290/1, p.28

711. It is the case that the Trust was told on 12th October 2001, through its legal representatives, that there were no plans to hold an Inquest.[819] Mr. Mills has said that Dr. Kelly was made aware on, or from, 12th October 2001 that an Inquest was not planned.[820]

712. Dr. Kelly has said that he learned on some unspecified date in 2002 in the context of a Scrutiny Committee meeting that *"the Belfast coroner's office knows about this case and no Inquest is planned."*[821] The Trust has claimed legal advice privilege with regard to the discussions at the relevant Scrutiny Meetings in 2002, and associated documentation.[822]

713. It is also unclear why Dr. Kelly's belief that an Inquest was to be arranged absolved the Trust from reporting to the Coroner what the RCPCH reports had concluded. Dr. MacFaul has examined the failure on the part of the Trust to notify the Coroner of the conclusions reached in each of the RCPCH reports. It is his view that they had a responsibility to do so.[823]

714. Referring to the report provided by Dr. Stewart in April 2001, and the opinions expressed by her at the meeting with Dr. Kelly on 31st May 2001, Dr. MacFaul has stated that the Trust's assumption that an Inquest would be arranged placed an onus on its officers to assist the Coroner:

> *"In my opinion the Coroner in Belfast should have been informed of Dr. Moira Stewart's opinion to assist in his enquiries as the Trust still assumed that an Inquest was planned…"* [824]

715. At the Oral Hearings, further consideration will be given to the Trust's omission to notify the Coroner or Mr. and Mrs. Crawford of the conclusions reached in the RCPCH reports.

XX. Relationship between Sperrin Lakeland Trust & the WHSSB

716. The WHSSB was the main commissioner of services in the Erne Hospital at the time of Lucy's death.[825]

717. The General Manager of the WHSSB at that time was Mr. Tom Frawley[826], although he was to move to a new post unrelated to the Board on 31st August 2000.[827]

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819 Ref: WS-293/1, p.19. In this regard see also the statement of Mr. Kevin Doherty WS-313/1, p.4
820 Ref: WS-293/2, p.8
821 Ref: WS-290/2, p.5
822 Ref: WS-313/1, p. 5
823 Ref: 250-003-015, para 20
824 Ref: 250-003-015, para 19
825 Ref: WS-293/1, p.7
826 See List of Persons Ref: 325-002-001
827 See List of Persons Ref: 325-002-001

718. Dr. William McConnell was the Director of Public Health for the WHSSB, and he was accountable[828] to the General Manager through the Director of Health Care. Mr. Martin Bradley was the Chief Nursing Officer for the WHSSB at the time of Lucy's death. As of 1st September 2000, he became Director of Health Care and Chief Nurse.[829]

719. The WHSSB was also the main commissioner of services at the Altnagelvin Hospital where Raychel Ferguson was treated some 14 months after Lucy's death. It is noteworthy that, following the death of Raychel, Dr. McConnell took an active role in disseminating to other health care providers the concerns which arose from her death.[830] This is discussed in greater detail below.

720. From 1996, the Sperrin Lakeland Health and Social Services Trust assumed responsibility for the management of the Erne Hospital.[831] Prior to this, the Hospital was a directly managed unit of the WHSSB. Amongst the functions of the Trust listed in the legislation which established the Trust is that it shall *"own and manage hospital accommodation and services provided at Erne Hospital".*[832]

721. Professor Scally has examined the nature of the relationship which existed in 2000 between the WHSSB and the Trust. He has characterised it in terms of a "*purchaser-provider split*".

722. Professor Scally states that with the formation of the Trust *"the relationship thus became one of the WHSSB agreeing with the Trust both what services it required of the Trust and the sums of money to be passed to the Trust in respect of those services."*[833]

723. As Mr. Frawley has described in his witness statement for the Inquiry, this engagement was underwritten by a Service Agreement between the respective organisations.[834]

724. Accordingly, in Professor Scally's view, following the formation of the Trust *"there was no direct managerial responsibility between the Trust and the WHSSB."*[835] Instead, it is his opinion that the Trust was accountable to the Department of Health and Social Services and Public Safety (DHSSPS) in respect of the management of services in the Erne Hospital.[836]

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828 Ref: WS-286/1, p.4
829 See List of Persons Ref: 325-002-001
830 Ref: WS-286/1, p.12
831 The Trust was established by Regulation 2 of The Sperrin Lakeland Health and Social Services Trust (Establishment) (NI) Order 1996
832 Regulation 3
833 Ref: 251-002-003
834 Ref: WS-308/1, p.65
835 Ref: 251-002-002
836 Ref: 251-002-004

725. In practice, however, the precise nature of the relationships was somewhat more complex and nuanced than this.

726. Indeed, having considered the relevant evidence gathered by the Inquiry, Professor Scally has observed that "*the culture of management, some of the procedures in place, and the communication pathways appear to have persisted into the period after the creation of the Sperrin Lakeland Trust…*"[837]

727. Therefore, despite the absence of a formal requirement for the Trust to account to the WHSSB with regard to the management of services at the Erne Hospital, the Trust continued to conduct itself on the basis that there was an obligation to account in certain circumstances.

Adverse Incident Reporting

728. In his witness statement to the Inquiry, Mr. Mills has set out his understanding of the Trust's relationship with the WHSSB and its General Manager (Mr. Frawley). He has explained how, arising out of the nature of this relationship, the Trust was 'required' (as he understood it) to report the death of Lucy to the WHSSB:

> *"The Western HSSB was the main commissioner of the services in the Erne Hospital. I had monthly meetings with Mr. Frawley which provided regular opportunities to discuss issues in respect of services provided by the trust.*
>
> *The Sperrin Lakeland Trust was formed from the Omagh and Fermanagh Hospitals and Community Services Unit of Management which had responsibility for the Erne Hospital. The Unit of Management was directly managed by the Western HSSB. There were well established arrangements for reporting untoward incidents including unexpected/unexplained deaths to the Western HSSB.*
>
> *"It was a requirement of the Western HSSB that significant issues occurring within the Trust were reported and discussed."*[838]

729. Dr. Kelly's understanding of the Trust's relationship with the WHSSB at that time seems to go even further so as to suggest that the WHSSB's General Manager had "*overall responsibility for health services across the Board*"[839] which he exercised through the Chief Executives of the three Trusts within the Board area.

730. In the evidence provided to the Inquiry by officers of the (former) WHSSB, it is made clear that a direct managerial responsibility did not exist between the Board and the Trust.[840] Mr. Frawley has stated,

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837 Ref: 251-002-002
838 Ref: WS-293/1, p.11
839 Ref: WS-290/1, p.16
840 See for example, the evidence of Dr. McConnell WS-286/1, p.15

"When the Trusts became separate autonomous public bodies, their primary reporting relationship moved from the Board to the DHSSPS. In 2000 the Trust had no explicit (policy based) responsibility for notifying the Board of unexpected or unexplained deaths."[841]

731. Indeed, as Mr. Frawley has explained, the relationship between the Trust and the Board was not "hierarchical" in nature.[842] There was, nevertheless, an expectation on the part of the WHSSB (as Mr. Frawley saw it) that, where an adverse incident occurred within the Erne Hospital (such as the death of a child in unexpected or unexplained circumstances), this would be reported to the WHSSB.

732. Dr. McConnell has endorsed this view:

"While there may not have been any definitive requirement set out in relevant procedures or circulars for S/L Trust to report Lucy's death to the WHSSB, there would have been an expectation that any such occurrence would be reported to us as their major commissioning body..."[843]

733. In a record of meeting which took place in November 2004, Dr. McConnell stated that *"he had an agreement with the Medical Director in each Trust that he would be informed if [an untoward] incident occurred."*[844] Puzzlingly, he is recorded as claiming that *"no report was provided to him at the time of Lucy Crawford's death."*

734. Mr. Frawley has explained that this expectation, that a report would be made to the WHSSB of an adverse incident (such as the death of Lucy), derives from the fact *"she was a resident of the Western area and therefore her care was covered by the Service Agreement between the Board and the Trust".*[845]

735. In this context, the Inquiry has been provided with a document by the DHSSPS which is undated and which appears to relate to discussions which were ongoing in relation to Lucy Crawford's case in 2004, following the Inquest.[846]

736. The document reveals that a meeting took place with Margaret Kelly[847] (by then Director of Nursing at the WHSSB) at which concerns were expressed about issues in Sperrin Lakeland Trust *"that are wider than the Lucy Crawford issue"*. It would appear that Ms. Kelly expressed the view that the WHSSB felt that it was *"in a difficult position due to not having accountability for the performance management of the Trust"*.

841 Ref: WS-308/1, p.8
842 Ref: WS-308/1, p.12
843 Ref: WS-286/1, p.5
844 Ref: 318-002-001
845 Ref: WS-308/1, p.14
846 Ref: 008-046-107
847 See List of Persons Ref: 325-002-001

737. The Department's response seems to have been to emphasise to Ms. Kelly that the Board was accountable *"for the population on whose behalf they commission services"* and that therefore they could ask the Trust to look into issues. A number of options were suggested to Ms. Kelly which the WHSSB could look at to address its concerns.

XXI. Involvement of the WHSSB

Initial Report of Lucy's Death by the Sperrin Lakeland Trust

738. Pursuant to its understanding of the requirement to report to the WHSSB, the Trust had immediate and ongoing communication with the Board following Lucy's death.[848]

739. On 14th April 2000, the day of Lucy's death, Dr. Kelly recalls that he suggested to Mr. Mills that he should inform Dr. McConnell (at the WHSSB) about the death and the establishment of a review.[849]

740. Mr. Mills appears to have accepted this advice and informed Dr. McConnell. A note made at the time suggests that Dr. McConnell indicated to Mr. Mills that he would notify Mr. Bradley.[850]

741. It is the understanding of Dr. Kelly that it was necessary to inform Dr. McConnell in particular because he *"carried responsibility for the safe delivery of services and performance of the clinical teams"* and because Dr. McConnell was *"involved in any areas of underperformance or quality of care issues".*[851]

742. On 14th April, Mr. Fee also notified Dr. Hamilton[852] of the WHSSB of the death[853] and he followed this up on 17th April by advising Dr. Hamilton about the press interest surrounding the death.[854]

743. The records made available to the Inquiry indicate that Mr. Mills met with Mr. Bradley on 19th April to advise him *"of the issues"* although the detail of what was discussed at that meeting is not described in the records.[855]

744. Mr. Bradley recalls that the "meeting" may have been a discussion in the corridor at WHSSB, at which he was advised that an incident had taken place in which *"it appeared that the incorrect quantity of intravenous fluids had been*

848 Ref: 030-010-017 & Ref: 036a-046-098
849 Ref: WS-290/1, p.5
850 Ref: 030-010-017
851 Ref: WS-290/1, p.12
852 See List of Persons Ref: 325-002-001
853 Ref: WS-287/1, p.5
854 Ref: 033-102-286
855 Ref: 030-010-017

given to Lucy."[856] Mr. Bradley recalls that he was told that Mr. Mills had asked *"Altnagelvin Trust to provide an independent view on the issue."* [857]

WHSSB's Obligations Having Been Informed of Lucy's Death

745. Professor Scally has noted that, notwithstanding the absence of a governance role for the WHSSB *"in strict management terms"*, there was nevertheless an obligation on the part of the WHSSB to take certain actions, having been advised of the death:

"…having been informed of a serious concern about the treatment of Lucy Crawford and having a general responsibility, deriving from the senior professional and managerial status of the officers of the Board and also the role of the Board in respect of the health of the population served by the WHSSB, it could be argued that those in possession of knowledge about a potentially serious untoward incident should act to ensure the response to the possible untoward incident was appropriate."[858]

37. Professor Scally has identified the following actions which Board officers ought to have taken:[859]

(i) Advised the Trust of the importance of reporting the circumstances of Lucy's death to the DHSSPS, the organisation to which it was accountable, and ensured that such a report had been made by checking with the Trust and the Department;

(ii) Advised the Trust that the Coroner should be notified that there were potential concerns about the treatment provided to Lucy;

(iii) Advised the Trust that it was important to carry out the actions set out in (a) & (b) in co-ordination with the RBHSC;

(iv) Advised the Trust that Lucy's care and treatment should be reviewed independently, using the appropriate clinical leads, and in accordance with written terms of reference, with such terms of reference being the subject of agreement between the two Trusts involved (Sperrin and Royal) and the DHSSPS;

(v) Advised the Trust of the need to secure all documentation relating to the care of Lucy.

746. The obligation to take action of the type suggested by Professor Scally has been accepted by Mr. Bradley who has said:

"If a Trust notified me of an unexpected or unexplained death I would have asked the Trust to explain what action was being taken to investigate the circumstances, and

856 Ref: WS-307/1, p.9
857 Ref: WS-307/1, p.8
858 Ref: 251-002-006
859 Ref: 251-002-007, 008 & 015

also ask if the Coroner had been informed. I would have suggested that the Trust considered making the DHSS aware of the situation if the death was giving cause for concern, could have implications for patient/public safety or likely to be of public concern. I would also have requested that learning from the death or the circumstances surrounding the death would have been communicated to the Board. I would also have shared such information with the Director of Public Health and Chief Executive."[860]

747. However, Dr. McConnell specifically rejects the suggestion that there was any role for the WHSSB in reporting the matter to the Coroner, or in checking whether an Inquest was planned.[861]

748. At the Oral Hearings, further consideration will be given as to whether the WHSSB ought to have taken the steps identified by Professor Scally and if so, whether those steps or other steps were taken, and the reasons for any omission to act on the information conveyed by the Trust to the WHSSB.

749. It would certainly appear to be the case that the Trust was regularly communicating with the WHSSB, and there is at least the suggestion that it was prepared to take advice from the Board.

Dr. Quinn's Review

750. On 21st April, Mr. Mills left a message to inform Dr. McConnell that the Trust had asked Dr. Quinn to provide advice on the case in the context of the review.[862] As has been noted in a section above, Dr. McConnell has claimed that at the time he raised a concern with Mr. Mills that Dr. Quinn may not be perceived as independent.[863]

751. On 3rd May, Mr. Mills provided Mr. Frawley with a briefing on the issues[864] and he provided a further update on 14th June.[865] However, the available records do not document the substance of what was discussed.

752. Mr. Frawley has recalled that the meeting on 3rd May was one of the regular update meetings which he conducted with the Chief Executives of the Trusts in the WHSSB area. It is his recollection that he was told that "*an investigation was underway and that Mr. Bradley and Dr. McConnell had been advised*".[866]

753. Mr. Frawley states that he has no particular recollection of the meeting with Mr. Mills on 14th June, but his assumption is that at that meeting he was told

860 Ref: WS-307/1, p.3
861 Ref: WS-286/1, p.10
862 Ref: 030-010-018
863 Ref: 318-002-001
864 Ref: 030-010-018
865 Ref: 036b-002-002
866 Ref: WS-308/1, p.22

that the investigation was continuing, and that further background information about the incident had emerged from interviews with staff.[867]

754. Mr. Fee has indicated that he met with Mr. Bradley to brief him in relation to Lucy's case, and that, on 12th May, Mr. Bradley visited staff on the Children's Ward at the Erne Hospital to *"gain a further insight into the events surrounding Lucy Crawford's death".*[868] It would appear that notes relating to these encounters do not exist.

755. On 15th May 2000, prior to the completion of the review, Dr. Kelly wrote to Dr. McConnell to update him in relation to developments in Lucy's case.[869] The correspondence appears to have been prompted by a request from Dr. McConnell to be updated.

756. In this correspondence, Dr. Kelly invited Dr. McConnell to make "*any suggestions or additional comments*" in relation to the case, but the Inquiry is unaware of any response from Dr. McConnell. Indeed Dr. Kelly has stated that Dr. McConnell did not reply to the letter[870] and for his part, Dr. McConnell cannot recall making a reply.[871]

757. Within the letter, Dr. Kelly advised Dr. McConnell that, while the Trust had not received a written report from Dr. Quinn, his initial indication to the Trust was "*the fluid regime was probably irrelevant and [that the] cause of death is still not clearly established and encephalitis and other causes remain a significant possibility."*[872]

758. It is worthy of note that the letter which Dr. Kelly sent to Dr. McConnell contained a number of apparent errors. It is worthy of note that the letter which Dr. Kelly sent to Dr. McConnell contained a number of apparent errors, although Dr. Kelly has stated that the information supplied to Dr. McConnell *"was an accurate account based on the information available at that time…"*[873].

759. Firstly, Dr. McConnell was advised that Lucy's serum sodium was noted to be low (127mmol/l) some hours <u>before</u> she suffered a seizure, whereas this was the finding following a sample taken <u>after</u> the seizure (as has been explained in earlier sections).

760. Secondly, Dr. McConnell was told that, in his meeting with Mr. and Mrs. Crawford, Dr. O'Donohoe advised them that a review was underway, whereas later correspondence to the Trust from Mr. Crawford indicated that he was unaware that a review was being undertaken.

867 Ref: WS-308/1, p.24
868 Ref: WS-287/2, p.2
869 Ref: 036a-046-098
870 Ref: WS-290/1, p.12
871 Ref: WS-286/1, p.6
872 Ref: 036a-046-099
873 Ref: WS-290/1, page 12

761. Furthermore, the letter from Dr. Kelly to Dr. McConnell also emphasised that Dr. O'Donohoe had "*immediately*" advised Dr. Kelly of the untoward incident. As appears from the analysis elsewhere in this document, there is some considerable doubt about precisely when Dr. O'Donohoe first reported this as an adverse incident to Dr. Kelly.

762. The main message contained within the letter from Dr. Kelly to Dr. McConnell appears to be that while the Trust had not received a written report from Dr. Quinn, his initial indication to the Trust was "*the fluid regime was probably irrelevant and [that the] cause of death is still not clearly established and encephalitis and other causes remain a significant possibility.*"[874]

Steps Taken after Publication of the Review Report

763. The Trust appears to have taken steps from shortly after Lucy's death to ensure that the WHSSB was aware that her death had arisen from an untoward incident which required investigation, and which was being investigated by the Trust itself with the assistance of Dr. Quinn.

764. Officers of the WHSSB seem to have been receptive to such communication from the Trust, and indeed (in the case of Dr. McConnell and others) appear to have sought updated information. It is unclear whether other steps, apart from information gathering, were taken by the WHSSB.

765. The publication of the Trust's review report provided an opportunity for the WHSSB to take further steps.

766. Dr. Kelly has indicated in his witness statement for the Inquiry that he received the final report from the Review Team on 31st July 2000.[875] He does not indicate that he passed a copy to the WHSSB, or suggested to anyone else that this should be done. He has indicated that when the report was completed it was sent to the Chief Executive of the Trust, Mr. Mills.[876]

767. According to Mr. Mills, a copy of the completed review report was sent to Dr. McConnell and Mr. Bradley at the WHSSB.[877] The Inquiry is unaware of any record or correspondence which would indicate that the final report was sent to these officers, or indeed to the WHSSB more generally.

768. Indeed, in his witness statement for the Inquiry, Mr. Frawley states that, to the best of his recollection, he did not personally receive a copy of the review report in his role as General Manager of the WHSSB, and moreover, no record can be found by the HSC of the report having been formally sent to the WHSSB.[878]

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874 Ref: 036a-046-099
875 Ref: WS-290/1, p.6
876 Ref: WS-290/1, p.18
877 Ref: WS-293/1, p.15
878 Ref: WS-308/1, p.26

769. The implications of the absence of documentation in this respect is an issue which will be further explored during the Oral Hearings. It is simply not clear whether the Trust sent the report to the WHSSB on a formal basis, or whether it invited a response.

770. In his statement to the Inquiry, Mr. Bradley does not assert that he actually received the review report, although he was asked to set out all of the steps that he took in association with Lucy's death in furtherance of his responsibilities. [879] However, as appears from the section below, Mr. Bradley has stated that he raised certain issues with local Directors of Nursing which arose out of Lucy's case, which leaves open the possibility that he may have been exposed to some of the conclusions reached by the review report.[880]

771. Dr. McConnell recalls receiving the review report, although he states that his recollection of its contents is not clear.[881] However, in a document supplied to the Inquiry by the HSC Board, Dr. McConnell is recorded as saying that he did not receive a copy of Dr. Quinn's review of the case.[882]

772. Nevertheless, he has expressed the view that he was satisfied that the correct issues were identified and that the appropriate range of staff contributed to the review.[883] He also recalls that since the specific cause of death was still unclear after the review[884], he concluded that "*further work/review would be desirable to resolve this*".

773. In particular, Dr. McConnell believes that he discussed with Dr. Kelly "*the need for the S/L Trust to consider having a wider review involving experts from outside the span of our area and settings/clinicians involved in any treatment roles*".[885]

774. He has explained to the Inquiry that he reached the view that a wider review was necessary in order that the investigation into Lucy's death could have "credibility".[886] He recalls that Dr. Kelly "*understood and agreed with the perspective*" that a wider review was necessary, and agreed to discuss it within the Trust.[887]

775. Dr. McConnell has said that he envisaged a wider review being conducted through the RCPCH.[888] However, as has been discussed above, the reviews conducted by the RCPCH were focussed on the practice of Dr. O'Donohoe,

879 Ref: WS-307/1, p.9
880 Ref: WS-307/1, p.11
881 Ref: WS-286/1, p.8
882 Ref: 318-002-001
883 Ref: WS-286/1, p.8
884 Ref: WS-286/1, p.8
885 Ref: WS-286/1, p.7
886 Ref: WS-286/2, p.5
887 Ref: WS-286/2, p.5
888 Ref: 318-002-001

and while the care of Lucy was examined in those reviews, it is clear that the reviews were not designed to examine in detail the care provided to her.

776. The Inquiry has not been provided with any documentation to indicate that Trust and Board representatives discussed the review report or its implications. There is no document indicating a need for the Trust to conduct something as specific as a wider review, or any correspondence asking the Trust to indicate what other steps it was taking to clarify the cause of death. Against this, it should be added that Dr. McConnell has said that, given the nature of his relationship with Dr. Kelly, *"it would have been unusual"* for him to put his views in writing.[889]

777. Dr. MacFaul has considered the question of the "wider review" and has observed that, at least by 2001 when he received and considered a copy of Dr. Stewart's report (see further below), Dr. McConnell should have understood that the focus had been placed on the professional competence of Dr. O'Donohoe rather than taking steps to establish the reasons for Lucy's death. In that sense, Dr. MacFaul observes, that Dr. McConnell must have known that the Trust had not complied with his recommendation.[890]

778. Professor Scally suggests that Dr. McConnell should have done more to ensure that an adequate investigation of Lucy's death was conducted:

> *"…he was notified of Lucy's death and he could, and probably should, have used his significant positional and sapiential authority to push the Trust and DHSSPS further in respect of proper and thorough investigation of Lucy's death."*[891]

779. The Trust's failure to comply with the recommendation to carry out a wider review, and the apparent absence of any response by Dr. McConnell or anyone else at the WHSSB to this failure, is a matter that will be further considered during the Oral Hearings.

780. Dr. McConnell has said that *"any formal response [to the review report] would have been made by the WHSSB or the Health Care Committee"*[892] but again, the Inquiry has received no information tending to suggest that this was done. Dr. McConnell has examined the records of the Board and Health Care Committees of the WHSSB, and has found no entries relating to the Trust's communication of the circumstances of Lucy's death, or the Trust's review report.[893]

781. Moreover, if the WHSSB considered the report internally, which is not specifically suggested by Mr. Frawley, Dr. McConnell or Mr. Bradley in their

889 Ref: WS-286/2, p.5
890 Ref: 250-003-089, para 443
891 Ref: 251-002-010
892 Ref: WS-286/1, p.8
893 Ref: WS-286/2, p.3

witness statements, it might have generated a documentary record but no such record has been made available to the Inquiry.

782. For his part, Mr. Mills cannot recall any specific response to the review report from the WHSSB.[894]

783. It is noteworthy that Dr. Kelly understood that Dr. McConnell *"had a responsibility to be satisfied that the incident was been (sic) properly reviewed"* and for *"disseminating any lessons learnt across the WHSSB and perhaps the wider HPSSNI".*[895]

784. It would appear that Dr. McConnell shared and agreed with that understanding of his responsibilities, at least in part. He has stated that after being informed of the death, it was his responsibility to disseminate information to his senior colleagues in the WHSSB and *"to work with Board managerial and professional colleagues to ensure that the Sperrin Lakeland Trust had and were taking all appropriate steps to investigate the surrounding events".*[896]

785. Likewise, Mr. Frawley has identified for the WHSSB a key role in ensuring that the process of review undertaken by the Trust was fit for purpose:

> *"where the investigation and its conclusions resulted in the preparation of a formal report, I would have had an expectation that the report would be shared with the Board in order to enable the Board to consider whether the Board needed to initiate any action in light of the report. In making such a judgment, I would seek the views of the relevant professional leads in the Board on whether the findings, conclusions and recommendations proposed by the Trust were a proportionate response to the incident that had been investigated."*[897]

786. This view that the WHSSB was obliged to test the Trust's findings, conclusions and recommendations in its report is endorsed by Professor Scally:

> *"If upon consideration of the review the Board was not content with any aspect, it would have been entirely appropriate for the Board to put forward those concerns to the Trust and to the DHSSPS. Indeed, as an organisation with responsibility for the health of the population served by the Erne Hospital it would have been remiss of them not to point out significant deficiencies."*[898]

787. It is simply unclear whether or how the WHSSB scrutinised the Trust's report to determine whether it was a sufficient response to Lucy's death, save that Dr. McConnell has stated that he suggested a wider review. Neither he nor his Board colleagues appear to have identified the significant flaws in the

894 Ref: WS-293/1, p.17
895 Ref: WS-290/1, p.12
896 Ref: WS-286/1, p.6
897 Ref: WS-308/1, p.8
898 Ref: 251-002-011

procedure and conclusion of the review which have been identified by Dr. MacFaul and discussed in earlier sections of this opening.

788. The adequacy of the WHSSB's response to Lucy's death will be further considered during the Oral Hearings.

The WHSSB's Role in Disseminating Lessons Learnt

789. Mr. Frawley has acknowledged that there was a role for the WHSSB in disseminating information about a critical incident to others in the NHS in Northern Ireland.[899]

790. He has stated that if a Trust provided a report of a critical incident to the WHSSB, he would expect the report to be tested against a number of key questions:

- Was the critical incident a one-off?
- Were there training or competency issues arising?
- Did the Board need to consider reviewing its commissioning plans because of the incident?
- Were there any systemic problems highlighted?

791. Mr. Frawley has indicated that if the Board understood that an incident had *"wider implications across the HSC, the relevant Trust should be advised that the matter should be raised with the DHSSPS…"* It is then for the DHSSPS to determine whether the issue identified had wider significance for the wider HPSS in Northern Ireland.

792. It would appear that while the Board might advise the Trust to take up an issue of wider significance by reporting it to the DHSSPS, the Board could also take action to ensure that such issues are communicated to the centre.

793. In his witness statement, Dr. McConnell has indicated how he, in the context of the death of Raychel Ferguson, was able to take proactive steps in his role as Director of Public Health, to transform an issue raised with him locally into an issue of regional significance.[900]

794. In particular, Dr. McConnell recalls that he was contacted by Dr. Fulton (Medical Director of the Altnagelvin Hospital) on or about the 22/23 June 2001, to be told that there was a concern about the use of Solution No.18.

795. Dr. McConnell then raised the issue at the next meeting of Chief Medical Officer / Directors of Public Health, which he has described as *"the usual*

899 Ref: WS-308/1, p.35
900 Ref: WS-286/1, p.12

method at that time of raising professional or clinical concerns which had arisen in any one Board, but which potentially, had wider relevance".[901]

796. In this context, Dr. MacFaul has indicated that it is noteworthy that having been advised in June 2001 that Raychel Ferguson's death occurred following the administration of Solution No.18, and with associated hyponatraemia, Dr. McConnell did not at that time draw any connection with the death of Lucy.[902] Dr. McConnell has explained that the illnesses in the two children were different, and that "*the fluid management issues was (sic) not so apparent to me in Lucy's case at that time*."[903] It is the case, however, that in June 2001 Dr. McConnell was also to receive the report of Dr. Stewart (for the RCPCH) which drew attention to the fluid issues in Lucy's case. This is further addressed below.

797. There is no suggestion that officers of the WHSSB advised the Trust that the circumstances of Lucy's death raised issues of such general significance that they should be reported to the Department, albeit that Dr. McConnell appeared to believe that the Department had been made aware of Lucy's death. Nor, it appears, did the officers of the WHSSB take steps to make any such report themselves.

798. Mr. Bradley has indicated that he identified a number of nursing issues of general application which arose from his consideration of the circumstances of Lucy's death: the need to maintain accurate records particularly around fluid balance; the importance of ensuring the accurate administration of intravenous fluids; the need to maintain good observations of the sick child, and to identify early signs of deterioration.[904] He has stated that these issues were raised in 2000 with the local Directors of Nursing, but it was only at a later date that hyponatraemia became an issue.

799. At the Oral Hearings, consideration will be given to whether the WHSSB adequately discharged any responsibility which it or its officers had to disseminate lessons learnt from the death of Lucy Crawford. In particular, consideration will be given to whether an opportunity was missed to learn lessons at a regional level about the use of low solute intravenous fluids in children.

Accountability of the Trust to the DHSSPS

800. As has been observed in the sections above, Professor Scally has observed in the sections above, is of the view that by 2000 the Trust was accountable to the DHSSPS for the management of services in the Erne Hospital.

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901 Ref: WS-286/1, p.12
902 Ref: 250-003-081, para 389
903 Ref: WS-286/2, p.6
904 Ref: WS-307/1, p.11

801. In exercise of that accountability arrangement, Professor Scally has explained that the Trust "*could reasonably [have been] expected to have notified the DHSSPS if they felt that the death was potentially due to inadequate treatment.*" Indeed, a similar expectation would have applied to the RBHSC in Professor Scally's view.

802. The officers of the former WHSSB also share the view that the Sperrin Lakeland Trust was obliged within the terms of the operating norms of that time, to inform the DHSSPS of serious adverse incidents. Mr. Frawley has set out his view:

"I would have expected the Trust to notify the DHSSPS of an 'untoward death' such as that of Lucy Crawford because the Trust's line of accountability was to the DHSSPS."[905]

803. Dr. McConnell was asked in his second witness statement to identify the section or the department within DHSSPS to whom Lucy's death should have been reported by the Trust. He answered:

"Following the creation of Trusts throughout Northern Ireland in the 1990s, a mechanism was developed within DHSSPS, through the Permanent Secretary's office/department, for direct managerial responsibility to be handled through the line management. Trust Chief Executives reported individually and collectively through regular meetings to a Senior Officer within the PS's department on issues within their Trusts. Any major event, such as Lucy's death, might have been considered relevant to report within that line of management."[906]

804. Indeed, Dr. McConnell has stated that it was his understanding, gained from information provided to the WHSSB by Mr. Fee and Mr. Mills, that the Trust had reported Lucy's death to the DHSSPS ("they were already in discussion with the DHSSPS…"[907]).

805. In particular, Dr. McConnell has stated that his belief is that Mr. Mills had communicated the death of Lucy to senior DHSSPS in the course of a telephone call[908] but when pressed for further details of whom Mr. Mills spoke to in the Department and what was discussed, Dr. McConnell is unable to answer and he has indicated that it would be better for Mr. Mills to address these issues.

806. Mr. Frawley has stated that he has no knowledge of the Trust submitting a report in relation to Lucy's death (or its findings) to the DHSSPS.[909]

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905 Ref: WS-308/1, p.14
906 Ref: WS-286/2, p.4
907 Ref: WS-286/1, p.7
908 Ref: WS-286/2, p.4
909 Ref: WS-308/1, p.21

807. Moreover, none of the Trust's senior management team account for reporting Lucy's death to the DHSSPS, and Mr. Mills specifically denies that the Trust's review into Lucy's death was ever brought to the Department's attention. He did not consider reporting the review to the Department and he states that others did not suggest to him that he should do so.[910]

808. Relevant Departmental officials have been asked to clarify when they first learned of Lucy's death. Ms. Henrietta Campbell, Chief Medical Officer, has told the Inquiry that she was not informed about the death until March 2003 when Mr. Leckey wrote to her.[911] Mr. Clive Gowdy, Permanent Secretary of the DHSSPS, has stated that he did not become aware of Lucy's death until February 2004.[912]

809. During the Oral Hearings, it will be considered whether Trust ought to have advised the DHSSPS of Lucy's death and the circumstances which surrounded it shortly after it occurred, the reasons for any omission to do so, and the implications of any such omission.

The WHSSB's Consideration of the Reports of the RCPCH

810. The circumstances in which the Trust obtained reports from the RCPCH in 2001 (Dr. Stewart), and again in 2002 (Dr. Stewart and Dr. Boon), and the conclusions which were reached in respect of Lucy's treatment and death, have been considered in detail in earlier sections.

811. On 27th June 2001, the RCPCH report prepared by Dr. Stewart was forwarded to Dr. McConnell by Dr. Kelly, together with the notes of his meeting with Dr. Stewart.[913]

812. The letter prompted a response from Dr. McConnell on 5th July 2001[914] and Dr. Kelly and Dr. McConnell met on 8th October 2001 when, according to Dr. Kelly's recollection of the meeting, they discussed Dr. O'Donohoe and the paediatric services at the Erne Hospital.[915] The Inquiry is not aware of any record of this meeting and Dr. Kelly has indicated that there are no notes available for this encounter.

813. Dr. McConnell accepts that a meeting took place but has not been able to comment on what was discussed.[916] There is no suggestion in the answers provided by Dr. Kelly that the meeting examined the views expressed by Dr. Stewart in relation to the cause of Lucy's death, or any lessons which could be learned by that.

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910 Ref: WS-293/1, p.6
911 Ref: WS-075/1, p.3
912 Ref: WS-062/1, p.2
913 Ref: 036a-028-069
914 Ref: 036a-029-070
915 Ref: WS-290/1, p.26
916 Ref: WS-286/1, p.11

814. During the Oral Hearings, it will be considered whether the death of Lucy Crawford was discussed at this meeting, and if not, the reasons for that omission. In particular, since Dr. Stewart has stated that she expressed herself in clear terms to Dr. Kelly when explaining the role played by fluid management in her death, it will be important to establish what consideration was given to her views and what action was taken, if any.

815. As has been discussed in earlier sections of this document, the underlying cause of Lucy's death was set out in precise terms in the second RCPCH report. However, there is no record available to the Inquiry to indicate that Dr. Kelly sent a copy of this report to Dr. McConnell.

816. Dr. McConnell has no recollection of receiving a copy of the report or of being apprised of its contents.[917]

817. Dr. Kelly has said that he would have expected Mr. Mills to have briefed Dr. McConnell about it.[918] There is no indication from Mr. Mills that he did so. In his witness statement, Mr. Mills recalls reading the first RCPCH report and discussing it with Dr. Kelly, but cannot recall when he received the second report. The only action which he took in respect of the reports was to seek assurance that they were shared with the Trust's legal representatives, since the case had gone to litigation.[919]

818. It is noteworthy that the Trust sought to keep Dr. McConnell informed of many of the developments in its consideration of Lucy's case. It would appear that he was sent a copy of the Trust's review report, and as well as the first RCPCH report. The second RCPCH report contained a clear and unequivocal description of Lucy's death which is not to be found in the earlier reports, yet on Dr. McConnell's account this report was not disclosed to him or its contents discussed.

819. At the Oral Hearings, it will be considered whether the second RCPCH report was disclosed to Dr. McConnell or anyone else at the WHSSB, or its conclusions discussed, and if not, the reasons for this omission will fall to be addressed.

Documents Provided by the WHSSB

820. The Trust's response to the Inquiry's call for documents included correspondence passing between Dr. Kelly of the Trust and Dr. McConnell of the WHSSB and records of meetings and telephone conversations between officials of the Trust and officials of the WHSSB concerning Lucy's case.

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917 Ref: WS-286/1, p.14
918 Ref: WS-290/1, p.27
919 Ref: WS-293/1, p.18

821. The correspondence disclosed by the Trust includes Dr. Kelly's letters to Dr. McConnell of 15th May 2000[920] and 27th June 2001[921], and Dr. McConnell's response to the latter dated 5th July 2001.[922]

822. Furthermore, as appears from the foregoing, the Trust's documents indicate that there was a discussion between Mr. Mills and Dr. McConnell on 14th April 2000,[923] a meeting between Mr. Mills of the Trust and Mr. Bradley of the Board on 19th April 2000,[924] a discussion between Mr. Fee of the Trust and Dr. Hamilton of the Board on 17th April 2000,[925] and meetings on 3rd May 2000 and 14th June 2000 between Mr. Mills of the Trust and Mr. Frawley of the Board,[926] during which Lucy's death was discussed.

823. It is noteworthy that the correspondence between Dr. Kelly and Dr. McConnell does not appear in the documents produced by the WHSSB to the Inquiry in 2004[927] or subsequently.[928]

824. It is also noteworthy that there is no record in the documents produced by the WHSSB of the various discussions and meetings to which reference has just been made and, with a solitary exception, there is no record in those documents of any consideration by the WHSSB and its officials of the matters raised in those meetings and discussions.

825. The exception is an email dated 8th May 2000 from Mr. Frawley to Dr. McConnell and Mr. Bradley headed "*Untoward Infant Death*" in which he emphasises the importance of getting definitive advice, and asks to be kept apprised.[929] However, there is no record of any response to this from Mr. Bradley or Dr. McConnell.

826. At the Oral Hearings, consideration will be given to whether the WHSSB (and/or its successor) and/or the officials of the Board have complied with their disclosure obligations, and if not, consideration will be given to the reasons for the failure to do so.

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920 Ref: 036a-046-098
921 Ref: 036a-028-029
922 Ref: 036a-029-070
923 Ref: 030-010-017
924 Ref: 030-010-017
925 Ref: 033-102-286
926 Ref: 036b-002-002
927 Ref: Files 17 & 18
928 Ref: File 318
929 Ref: 318-051-001

XXII. Complaint by the Crawford Family

827. Dr. MacFaul has observed that following the completion of the review steps were not initiated by the Trust to share the findings with Mr. and Mrs. Crawford.[930]

828. The Crawfords approached Mr. Stanley Millar[931], Chief Officer of the Western Health and Social Services Council ("WHSSC") and they met on 5th May 2000 to highlight their questions and concerns.[932] He described them as being "*grieving, distraught – with legitimate questions*".[933]

829. On 16th June 2000, Mr. & Mrs. Crawford, together with Mr. Millar (WHSSC), met Dr. O'Hara to discuss the outcome of the post mortem examination.[934]

830. Mr. Millar continued with his communication with the Sperrin Lakeland Health Trust on behalf of the Crawfords and Lucy's case notes were obtained.

831. Lucy's father wrote to the Trust on 22nd September 2000 to advise that he wished to invoke the formal complaints procedure.[935] In subsequent correspondence, Mr. Mills wrote to Mr. Millar to offer a meeting so that the Trust could share the findings of the review.

832. Mr. Crawford wrote to express surprise that a review could have taken place without notifying the family and to request a copy of the review findings. It was noted above that Dr. Kelly had earlier advised Dr. McConnell of the WHSSB that the family had been told that a review was being undertaken. After further correspondence, the family was finally provided with a copy of the review report on 10th January 2001, and told that this was an 'initial step' in the formal complaints process. [936]

833. The Crawfords expected a response to their complaint, to include the provision of a written explanation of what happened within 20 days of making the complaint. In his Coroner's statement[937], Mr. Crawford stated that he received a letter dated 30th March 2001 (almost one year after Lucy's death), from the Trust Chief Executive stating "*the outcome of our review has not suggested that the care provided to Lucy was inadequate or of poor quality*".[938]

834. Between the Crawfords' commencement of the complaint and the Chief Executive's formal response in March 2001, the Trust had corresponded with the Crawfords (or through Mr. Millar) on about eight occasions. The matter

930 Ref: 250-003-014
931 See List of Persons Ref: 325-002-001
932 Ref: 015-001-001
933 Ref: 015-059-232
934 Ref: 015-006-031
935 Ref: 033A-006-331
936 Ref: 013-043-180
937 Ref: 013-022-079
938 Ref: 033-018-033

was predominantly dealt with by the Trust through Bridget O'Rawe, Director of Corporate Affairs, Mr. Mills and, on one occasion, through Mr. Michael MacCrossan.

835. Key points from these letters may be summarised:

(i) Bridget O'Rawe's response dated 2nd October 2000 to the official complaint[939] stated that *"...and a full investigation will take place."* The Review of Lucy by the Trust had been completed in July 2000.

(ii) Mr. Mills to Mr. Millar dated 11th October 2000[940] proposed a meeting with the Crawfords *"...to share with Lucy's parents our findings of the review we have carried out"*. The Crawfords had no knowledge that a review had taken place.

(iii) Further attempts were made by the Trust to meet the Crawfords but without forwarding the written Review. A key issue was the decision by the Crawford family not to meet the Trust until they had seen the Review.

(iv) On 10th January 2001, Mr. MacCrossan (for Mr. Mills) forwarded to Mr. and Mrs. Crawford a substantially reduced copy of the Trust's review report, describing the provision of the report as *"an initial step"*. The recommendation section and the appendices (including the report of Dr. Quinn) were removed from the version of the report sent to Mr. and Mrs. Crawford.[941]

(v) Mr. Mills told Mr. and Mrs. Crawford in his letter to them of 30th March 2001 that *"the outcome of our review has not suggested that the care provided to Lucy was inadequate or of poor quality."*[942]

Legal Action

836. The Trust made further efforts to encourage the Crawford family to attend a meeting but, on 27th April 2001, solicitors acting for the family took the first step in the litigation process by sending a letter before action to the Trust.

837. During the period of legal action, the Crawfords made an attempt to find out what happened with Lucy's care. Mrs. Crawford contacted Dr. Holmes, Consultant Anaesthetist. His report of this conversation to Mrs. Kelly contains the statement "*Mrs. Crawford states firmly that in taking recourse to legal help, they are not seeking* financial *compensation. They just want 'an explanation and an apology."*[943].

939 Ref: 033-043-143
940 Ref: 033-039-135
941 Ref: 013-043-180 through to 013-043-184
942 Ref: 033-055-166
943 Ref: 033-056-169

838. Approximately five days before the case was listed to be heard, the Trust declared on 10th December 2003, that it 'would not be contesting the issue of liability'. The Trust accepted liability on 10th December 2003 and the litigation was eventually settled.

839. It was not until after the conclusion of the Inquest in relation to the circumstances of Lucy's death that Mr. Mills wrote to Mr. and Mrs. Crawford to apologise for the Trust's failure to adequately care for Lucy:[944]

> *"I am writing on behalf of the Trust to indicate our regret and apologies for the failings in our service at the time of Lucy's death in April 2000. These failings, not fully identified in or original review became evident later in the process following another reported death in Northern Ireland. At that time we sought, through your legal representatives, to reach settlement on the legal proceedings."*

840. The reference in the letter to *"another reported death"* appears to be that of Raychel Ferguson in the Altnagelvin Hospital in June 2001. Mr. Mills seems to have been suggesting to Mr. and Mrs. Crawford that it was only in the process of learning lessons from Raychel's death that the full extent of the Erne Hospital's failings in Lucy's case *"became evident"*. However, it is unclear how the failings of the Erne Hospital in its management of Lucy's care were illuminated for Mr. Mills and his colleagues by the reported death of Raychel.

841. As has been described above, the failings in the Erne's treatment of Lucy were suspected by clinicians such as Dr. Auterson and Dr. Asghar well before Raychel's death, even if their views did not form part of the Trust's review report.

842. Moreover, those failings and their relevance in causative terms were also reportedly highlighted to Dr. Kelly by Dr. Moira Stewart in April and late May 2001 before Raychel's death, and were to be identified in reports produced after Raychel's death by Dr. Jenkins and Dr. Stewart / Dr. Boon (for the RCPCH).

843. Prior to the Coroner's inquest in February 2004, the Crawford family believed that they had not received an explanation from the Trust or any of its employees for what had happened to Lucy.

844. At the Oral Hearings, consideration will be given to whether the Trust and its employees ought to have acted earlier to disclose what was known about the cause of Lucy's death, and attention will be given to the reasons for any omission to do so.

Medico-legal Reports

845. Before commencing legal proceedings, Lucy's parents had, through their solicitors, engaged Dr. Dewi Evans (Consultant Paediatrician, Singleton

944 067H-004-006

Hospital in Swansea) to provide them with a medico-legal report regarding Lucy's care and treatment. He provided a report dated 18th February 2001 (and therefore before the death of Raychel at Altnagelvin Hospital). [945]

846. In his report, Dr. Evans pointed out that, if Lucy had been managed according to the basic standards of paediatric practice in a district general hospital, then it was, in his opinion, extremely unlikely that she would have developed cerebral oedema, i.e.: "*Treating Lucy with the standard therapy for children with gastroenteritis would have prevented the cerebral oedema and prevented the neurological collapse*".[946]

847. However, it seems that neither Dr. Evans, nor his instructing solicitors, disclosed the details of his report further until after the announcement of an Inquest into Lucy's death.[947]

848. It should also be noted that, by March 2002, the Trust was in possession of its own medico-legal report in association with this litigation. In his report dated 7th March 2002, Dr. John Jenkins, Consultant Paediatrician, opined that evidence of changes in Lucy's serum electrolytes "*do raise the question as to the fluid management in the period from insertion of the IV line at 23:00 to the collapse at around 3.00am*".[948] He pointed to the absence of: "*clear documentation regarding the fluid type and rate prescribed, together with clear records as to the exact volumes of each fluid which were in fact received by the child throughout the time period concerned*" and the "*confusion between the staff involved*".[949]

849. He concluded by saying that "*while no definite conclusions can be drawn regarding the cause of this child's deterioration and subsequent death there is certainly a suggestion that this was associated with a rapid fall in sodium associated with intravenous fluid administration and causing hyponatraemia and cerebral oedema*".[950] The findings of Dr. Jenkins were not shared with the Coroner at that time.

XXIII. Referral to the Coroner

850. It should be noted that Mr. Stanley Millar, Chief Officer of the Western Health and Social Services Council, had written to the Coroner for Fermanagh, Miss Angela Colhoun, as early as the 31st July 2000, asking for a meeting so that he could advise the Crawford family regarding the Coroner's role.[951] Mr. Millar has said that he was told that an Inquest was unnecessary.[952] If it was Miss Colhoun who advised him of that view, it is unclear why she did so.

945 Ref: 013-010-025
946 Ref: 013-010-036
947 Ref: 013-059-369
948 Ref: 013-011-038
949 Ref: 013-011-039
950 Ref: 013-011-039
951 Ref: 015-011-036
952 Ref: 013-056-320

851. The circumstances of Lucy's death were eventually referred to the Coroner, Mr. Leckey, by Mr. Millar in February 2003.[953]

852. Mr. Millar had been advising Mr. Crawford in his dealings with the Trust, and had become aware of the circumstances of Raychel's death and the findings of her Inquest.

853. The Coroner has explained, in a statement to the PSNI, how his office was originally caused to treat Lucy's death as being a natural death, and how it was only upon receipt of Mr. Millar's correspondence that he was given information which led him to consider that he should investigate whether fluid management was relevant to the cause of Lucy's death,[954] including the fact that a hospital post-mortem had been conducted in relation to Lucy's death.[955]

854. In his PSNI statement, the Coroner was critical of Dr. O'Hara for his failure to refer Lucy's death to him and for his failure to request that the consent post-mortem be converted into a Coroner's post-mortem. He was also critical of the Erne Hospital's failure to report the death to him.

Reports of Dr. Sumner & Dr. O'Hara

855. Having received correspondence from Mr. Millar, the Coroner obtained a report from Dr. Ted Sumner.[956] This report has been erroneously dated April 2002 on its front cover; it appears to date from 2003. Dr. Sumner concluded that excessive volumes of hypotonic fluid in the face of losses of electrolytes caused "*an acute serum sodium dilution which in turn caused acute brain swelling*".[957]

856. Dr. Sumner's report was referred to Dr. O'Hara who wrote to the Coroner on 23rd October 2003.[958] In that letter, Dr. O'Hara, reflecting upon Dr. Sumner's report, expressed the following view:

> *"…I believe that under Dr. Sumner's rather austere assertion the death was solely the result of hyponatraemia is perhaps not the entire truth and I would feel there is reasonable evidence to infer that bronchopneumonia was probably developing at the time of the child's initial presentation to Craigavon Hospital (sic), and that the pneumonia must be at least as important as hyponatraemia, and it is a condition demonstrable at the time of P.M. whilst hyponatraemia is not and assertions made about it are "case based" and to some extent circumstantial."*

857. He added:

953 Ref: 013-056-320
954 Ref: 115-034-001
955 Ref: 013-004-007
956 Ref: 013-036-136
957 Ref: 013-036-141
958 Ref: 013-053f-296

"I have read Dr. Sumner's report and believe that this will pose difficulties in that he confuses matters of fact with matters of opinion and approaches the matter in a somewhat 'tunnel vision' way … There is a history of a presentation which would be entirely consistent with an infective condition and then there is, as pointed out by Dr. Sumner objective evidence of hyponatraemia. The problem is that both these conditions can bear directly on the brain and give rise to the problems of which were the ultimate cause of death namely the cerebral oedema with its affect on vital respiratory and cardiac centres." [959]

858. Dr. O'Hara acknowledged that at the time of conducting the post-mortem he was aware that there was *"a potential background of litigation"*.

859. The Coroner invited Dr. O'Hara to convert his hospital post-mortem report of 17th April 2000 into a Coroner's Report. On the instruction of the Coroner, Dr. O'Hara furnished such a Report dated 6th November 2003[960] which, unlike his report from June 2000, addressed the issue of hyponatraemia.

860. In his report, Dr. O'Hara expressed the view that there were two potential causes: *"Firstly, hyponatraemia causing cerebral oedema due to disturbance which occurs in the quantities of water moving into the brain. Secondly, bronchopneumonia both toxic and hypoxic affects and is also well known as a cause of cerebral oedema"*. He concluded that it would be difficult to be certain what proportion of the cerebral oedema could be ascribed to each of those processes. [961]

Inquest

861. In response to his view that an Inquest was now necessary,[962] the Coroner applied to the Attorney General for Northern Ireland for a direction that an Inquest should be held into Lucy's death. In December 2003, the Legal Secretariat for the Attorney General's Chambers notified the Coroner that the Attorney General had made an Order directing him to carry out an Inquest into the circumstances surrounding Lucy's death.[963]

862. The Coroner conducted the Inquest into Lucy's death from 17th February to 19th February 2004. The depositions are contained within **File 13.**

863. In addition to Dr. Edward Sumner's expert Report[964], the Coroner also had the benefit of the two medico-legal reports prepared by Drs. Evans and Jenkins.

864. At the Inquest, the Erne Hospital and RBHSC offered no evidence in opposition to Dr. Sumner's view that the cerebral oedema was due to acute dilutional hyponatraemia.

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959 Ref: 013-053f-296
960 Ref: 013-017-063
961 Ref: 013-017-065
962 Ref: 013-052-280
963 Ref: 013-052e-285
964 Ref: 013-036-136

865. A range of witnesses associated with those hospitals (or instructed to provide expert opinion on their behalf in the case of Dr. Jenkins) expressed the view that Lucy's death was related to hyponatraemia:

(i) Dr. Peter Crean[965]

(ii) Dr. Thomas Auterson[966]

(iii) Dr. Donncha Hanrahan[967]

(iv) Dr. John Jenkins[968]

That was also the conclusion reached by Dr. Dewi Evans (Consultant Paediatrician) who had prepared a report upon the instruction of the Crawford family solicitor.[969]

866. The Inquest Verdict recorded the cause of Lucy's death in the following terms:

"I(a) cerebral oedema (b) acute dilutional hyponatraemia (c) excess dilute fluid

II gastroenteritis"[970]

867. The Coroner also made findings that the dilutional hyponatraemia was caused by a combination of an inappropriate fluid replacement therapy of 0.18% saline and a failure to properly regulate the rate of infusion. There were further findings in respect of the poor quality of the medical record keeping and the confusion amongst the nursing staff as to the fluid regime prescribed having compounded the errors in fluid management. [971]

868. As a result of the Inquest, Lucy's death certificate was amended[972] to show the cause of her death as shown in the Coroner's Verdict on Inquest.

869. Following the inquest, Mr. Fee forwarded to Mr. Mills a document entitled 'Issues for consideration'[973]which highlighted the clinical, organisational and regional issues which he felt should be actioned.

965 Ref: 013-021-072
966 Ref: 013-025-094
967 Ref: 013-031-114
968 Ref: 013-033-129
969 Ref: 013-024-088
970 Ref: 013-034-130
971 Ref: 013-034-131
972 Ref: 069A-005-007
973 Ref: WS-287/2, p.4

XXIV. Root Cause Analysis by Sperrin Lakeland Trust

870. The Trust established a root cause analysis steering group to examine its handling of Lucy's case following her Inquest. However, on 4th November 2004, the Trust was advised by the DHSSPS to discontinue this work following the Ministerial announcement of this Inquiry.[974]

871. The papers associated with the root cause analysis can be found within **File 18**.

XXV. Investigations by Professional Bodies

General Medical Council

872. The circumstances of Lucy's death were the subject of a referral from the Coroner to the General Medical Council. In a letter to the GMC[975], the Coroner expressed the following view:

> *"…I had very serious concerns about the quality of the medical care Lucy received whilst a patient in the Erne Hospital, Enniskillen and in particular, the role of two of the medical staff – Dr. Amer Ullas Malik and Dr. JM O'Donohoe (sic) who is a Consultant Paediatrician."*

873. Following the referral made by the Coroner, the GMC carried out an investigation into the conduct of both Dr. Malik and Dr. O'Donohoe.

874. On 6th November 2004, Mr. and Mrs. Ferguson (the parents of Raychel Ferguson) also made complaints to the GMC about the following persons:[976]

(i) Dr. Henrietta Campbell (Chief Medical Officer for Northern Ireland);

(ii) Dr. Murray Quinn (Consultant Paediatrician, Altnagelvin Hospital);

(iii) Dr. Donncha Hanrahan (Consultant Paediatric Neurologist, RBHSC);

(iv) Dr. John Jenkins (Consultant Paediatrician, Antrim Area Hospital);

(v) Dr. Geoff Nesbitt (Altnagelvin Hospital),

(vi) Dr. James Kelly (Medical Director, Erne Hospital);

GMC - Dr. O'Donohoe

875. Fitness to practise proceedings were commenced against Dr. O'Donohoe, and, following a contested hearing, the Fitness to Practise Panel found that he was

974 Ref: 067k-044-065
975 Ref: 013-037-142
976 Ref: 068-013-022

guilty of serious professional misconduct. They sanctioned him by issuing a reprimand on 30th October 2009.

876. The Panel, directing its remarks to Dr. O'Donohoe, made the following findings:

"…you attended, assessed and inserted an intravenous line into [Lucy]. In carrying out this procedure you did not calculate an acceptable plan of fluid replacement. Furthermore, you did not ensure that a record was made on that day of your assessment and diagnosis, management plan including fluid management plan, calculation of fluid replacement requirements and fluid prescription stating the identity of the fluid and the rate of infusion over time. Neither did you ensure that the nursing staff on the ward knew of an adequate fluid replacement plan or system for monitoring its progress. Further, you did not monitor or check [Lucy] again prior to a crash call at approximately 3.00am."

"On 14 April 2000, you made a record of what your fluid management plan for [Lucy] on 12 April 2000 had been, namely, a bolus of 100mls over one hour, followed by 0.18% sodium chloride/4% dextrose at 30mls per hour. The panel found that your record was inaccurate and misleading."

"The panel has found that the fluid regime as set out in your record was not communicated properly by you to those administering the fluid, not monitored or checked by you to ensure that it was followed and, in any event, was not appropriate. That the care provided to Lucy by you was not in her best interests and fell below the standard to be expected of a reasonably competent Consultant Paediatrician."

"The panel found that your actions in relation to [Lucy] were not in her best interests and fell below the standards to be expected of a reasonably competent Consultant Paediatrician."[977]

GMC - Dr. Quinn

877. The Inquiry has been advised by the GMC that the complaint against Dr. Quinn remains outstanding.

878. The complaint which the GMC is considering against Dr. Quinn arises out of the role that he played in assisting the Sperrin Lakeland Trust in the conduct of its internal review.

879. It is emphasised that the GMC proceedings against Dr. Quinn have yet to come to hearing. It is understood that he denies any wrongdoing. Plainly, no conclusions can be or should be reached with regard to the culpability of him merely because the GMC have raised the above allegations.

977 Ref: 163-005-001

GMC - Drs. Malik, Campbell, Nesbitt, Hanrahan, Jenkins & Kelly

880. The GMC has closed the complaints against Drs. Malik, Campbell, Nesbitt, Hanrahan, Jenkins and Kelly on the grounds, inter alia, that there was no realistic prospect of establishing that their respective fitness to practise was impaired to a degree justifying action on their registration. The complaint against the Royal College could not be pursued.

Nursing & Midwifery Council

881. The Nursing and Midwifery Council received complaints from Mrs. Mae Crawford (Lucy's mother) in relation to the conduct of Staff Nurses Swift, McManus, Jones and Enrolled Nurse McCaffrey. On 17th January 2007, the nurses were advised that the NMC had decided that there was no case to answer.

XXVI. Police Service of Northern Ireland (PSNI) Investigation

882. After the Inquest into the circumstances of Lucy's death, the PSNI carried out a criminal investigation. The PSNI were particularly concerned to investigate whether there was any evidence to establish a breach of the Coroners Act, or a conspiracy to pervert the course of justice.

883. More seriously, the PSNI also examined whether there was any evidence that would support a prosecution for manslaughter or for neglect arising out of the care and treatment provided to Lucy. There have been no prosecutions for any offences arising out of the death of Lucy, however.

884. The PSNI investigation was led by Detective Sergeant William R. Cross. In the course of his investigation, Detective Sergeant Cross carried out 'after caution' interviews with the following persons:

(i) Mr. Fee

(ii) Mr. Mills

(iii) Dr. Kelly

(iv) Dr. Anderson

(v) Dr. Hanrahan

(vi) Dr. O'Donohoe

(vii) Staff Nurse Swift

(viii) Staff Nurse McManus.

The records of these interviews can be found at **File 116.** All of these interviews contain information which may be considered relevant to the issues being considered by the Inquiry.

885. Detective Sergeant Cross also obtained statements from a large number of witnesses, including the Coroner, Mr. Leckey. The records of these interviews can be found in **File 114/115,** and again, may be considered relevant to the issues being considered by the Inquiry.

886. On 20th October 2006, the PPS directed that the available admissible evidence was insufficient to meet the test for prosecution in respect of any of the persons reported to it.

Appendix I – Evidence Received By the Inquiry

887. Following the establishment of the Inquiry on 1st November 2004[978], requests for information and evidence were sent out to a number of bodies including, in relation to Lucy's case:

(i) Department of Health, Social Services and Public Safety

(ii) Royal Group of Hospitals HSST

(iii) Sperrin Lakeland Trust

(iv) Western Health & Social Services Council

(v) HM Coroner for Greater Belfast

(vi) Police Service of Northern Ireland ("PSNI")

(vii) Lucy's family

(viii) General Medical Council ("GMC")

(ix) Nursing & Midwifery Council ("NMC")

Documents and Other Material

888. The call for documents has been ongoing since the establishment of the Inquiry and it is continuing. The search for relevant documents has and is being informed by guidance from the Inquiry's Advisors, from its Experts and from the responses to requests for witness statements.

889. The material received to date in relation to Lucy's case includes:

(i) Documents held by the Coroner (Depositions from the Inquest into Lucy's death and Reports commissioned by the Coroner)[979]

(ii) Medical Notes and Records in respect of the care and treatment of Lucy Crawford at the Erne Hospital[980] and the RBHSC.[981]

(iii) Documents from the investigations of the Police Service of Northern Ireland ("PSNI")

(iv) Records of interviews under caution conducted by the PSNI including interviews with:

978 Ref: 008-032-093
979 Ref: File 13
980 Ref: File 27
981 Ref: File 61

- Dr. Jarlath O'Donohoe[982] (Consultant Paediatrician, Erne Hospital)
- Staff Nurse Brid Swift (Erne Hospital)[983]
- Staff Nurse Sally McManus (Erne Hospital)[984]
- Dr. Donncha Hanrahan[985] (Consultant in Paediatric Neurology, RBHSC)
- Mr. Eugene Fee[986] (Director of Acute Hospital Services, Sperrin Lakeland Trust)
- Dr. Trevor Anderson[987] (Clinical Director, Women and Children's Health Sperrin Lakeland Trust)
- Dr. James Kelly[988] (Medical Director, Sperrin Lakeland Trust)
- Mr. Hugh Mills[989] (Chief Executive, Sperrin Lakeland Trust);

(v) PSNI statements from witnesses including:

- Mr. and Mrs Crawford[990]
- Dr. Aisling Kirby (G.P.)[991]
- Enrolled Nurse Teresa McCaffrey (Erne Hospital)[992]
- Staff Nurse Thecla Jones (Erne Hospital)
- Staff Nurse Siobhan MacNeill (Erne Hospital)
- Dr. Thomas Auterson[993] (Consultant Anaesthetist, Erne Hospital)
- Sister Gladys Edmondson (Erne Hospital)
- Sister Elaine Traynor (Erne Hospital)

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982 Ref: 116-008 to 116-010
983 Ref: 116-014 to 116-017
984 Ref: 116-021 to 116-023
985 Ref: 116-026 to 116-027
986 Ref: 116-031 to 116-034
987 Ref: 116-038 to 116-039
988 Ref: 116-043 to 116-045
989 Ref: 116-049 to 116-052
990 Ref: 115-001 to 115-006
991 Ref: 115-007
992 Ref: 115-010 to 115-013
993 Ref: 115-017 to 115-018

- Dr. Muhammad Asghar[994] (Staff Grade in Paediatrics, Erne Hospital)
- Dr. Caroline Stewart[995] (Specialist Registrar in Paediatrics, RBHSC)
- Dr. Louise McLoughlin[996] (Paediatric SHO, PICU, RBHSC)
- Dr. James McKaigue[997] (Consultant in Paediatric Anaesthesia and Intensive Care, RBHSC)
- Dr. Anthony Chisakuta[998] (Consultant in Paediatric Anaesthesia and Intensive Care, RBHSC)
- Dr. Peter Crean[999] (Consultant in Paediatric Anaesthesia and Intensive Care, RBHSC)
- Mrs. Maureen Dennison[1000] (Coroner's Office)
- Mr. John Leckey, (HM Coroner for Greater Belfast)[1001]
- Dr. Dara O'Donoghue[1002] (Senior House Officer and Acting Registrar in Paediatrics, RBHSC)
- Mrs. Marian Doherty[1003] (Health Visitor, Sperrin Lakeland Trust)
- Mrs. Marian Murphy[1004] (Nurse Manager, Sperrin Lakeland Trust)
- Dr. Murray Quinn[1005] (Consultant Paediatrician, Altnagelvin Hospital)
- Mr. Stanley Millar[1006] (Chief Officer, Western Health and Social Services Council)
- Mr. Matthew Hackett[1007] (Chief Biomedical Scientist, Technical Head of Haematology, Tyrone County Hospital, Omagh)

994 Ref: 115-021
995 Ref: 115-022 to 115-024
996 Ref: 115-025 to 115-026
997 Ref: 115-027
998 Ref: 115-028
999 Ref: 115-029 to 115-030
1000 Ref: 115-033
1001 Ref: 115-034
1002 Ref: 115-036 to 115-038
1003 Ref: 115-039
1004 Ref: 115-040
1005 Ref: 115-041
1006 Ref: 115-042

(vi) The report of the consent post mortem carried out by the late Dr. Denis O'Hara[1008] (Consultant Paediatric Pathologist)

(vii) The review of Lucy Crawford's case conducted by the Sperrin Lakeland Trust[1009]

(viii) Papers held by UTV[1010]

(ix) Correspondence from the Directorate of Legal Service ("DLS") providing responses to the Inquiry's requests for information[1011]

Publications

890. The Legal Team has added to its bibliography any publications referred to by its Advisors, Experts and Witnesses. It is available on the Inquiry website and is updated as further authorities are cited.

Expert Reports & Background Papers

891. These are referred to in detail above in Section III of the Opening.

Witness Statements

892. The Legal Team requested and received a large number of witness statements and supplemental witness statements from persons involved in Lucy's case. The Legal Team has been informed in that task by:

(i) The Inquiry's Advisors

(ii) Lucy's medical notes, records and other contemporaneous material

(iii) Previous statements made, whether through Depositions to the Coroner, statements taken by the PSNI or witness statements to the Inquiry

(iv) Statements from others and in some cases the evidence of others during the Oral Hearings

(v) Subsequent documents received from the DLS and a variety of other sources

(vi) Reports from the Inquiry's Experts

893. The Legal Team has compiled a list of all those involved in Lucy's case from all of the information received by the Inquiry.[1012] It explains their position

1007 Ref: 115-043
1008 Ref: 013-037
1009 See in particular Ref:033-036-068 et seq
1010 Ref: File 69
1011 Ref: File 319

then and now, briefly summarises their role in Lucy's case, and whether they have provided a statement and, if so, for whom. Importantly, it also indicates the witnesses that it is proposed to call to give evidence during the Oral Hearing.

1012