EVENTS FOLLOWING LUCY CRAWFORD'S DEATH

Contents

Introduction and background

4.1 Lucy Crawford was born on 5th November 1998, the youngest of a family of three. She was admitted to the Erne Hospital Enniskillen on 12th April 2000, transferred the next day to the Royal Belfast Hospital for Sick Children ('RBHSC') and died on 14th April 2000.

4.2 Lucy's death was examined in the October 2004 UTV documentary *'When Hospitals Kill'.* It implicated hyponatraemia in her death and alleged a 'cover up.' Accordingly, Lucy's case fell within the original remit for consideration by this Inquiry.[1]

4.3 The work of the Inquiry was stayed in 2005 to permit an investigation of her case by the Police Service of Northern Ireland ('PSNI'). Ultimately, the Public Prosecutions Service for Northern Ireland determined that there should be no prosecution. I was then contacted by Lucy's parents who informed me that for personal reasons they no longer wished Lucy's death to be investigated by the Inquiry. I reported the matter to the Minister who acceded to their wishes.

4.4 It was then urged upon me that any contemporaneous failure to acknowledge the relevance of hyponatraemia in Lucy's death could have influenced the lessons drawn from her death and might have contributed to the tragedy of Raychel's death 14 months later. After engaging in extensive consultation I decided in February 2010 that the terms of reference still required investigation into the aftermath of Lucy's death.

4.5 In this context, I considered the revised terms of reference required:

"*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,*

[1] 021-010-024 as published on 1st November 2004

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."

4.6 Arising from this, the principal questions are whether the cause of Lucy's death was clear at the outset; whether any of the participants knew or suspected that Lucy's death was caused by mismanagement and if so, why this was not made known at the time. Further and in this context, whether there was a failure to ensure that the death was properly investigated and if so, why so?

Expert reports

4.7 In order to assist and advise, the Inquiry retained a number of experts. The experts were:

(i) Dr Roderick MacFaul[2] (Consultant Paediatrician, retired) who provided expert comment on clinical and governance matters.[3]

(ii) Professor Gabriel Scally[4] (Director of WHO Collaborating Centre of Healthy Urban Environments) who reported on the responsibilities of the Trusts and the Boards and the DHSSPS in Northern Ireland at the time of Lucy's death.[5]

(iii) Professor Sebastian Lucas[6] (Department of Histopathology, St. Thomas' Hospital, London) who advised on issues arising from the autopsy.[7]

(iv) Dr Simon Haynes[8] (Consultant in Paediatric Cardiothoracic Anaesthesia & Intensive Care, Freeman Hospital, Newcastle upon Tyne) who provided his opinion on Lucy's fluid management.[9]

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2 325-002-013
3 File 250
4 325-002-013
5 File 251
6 325-002-013
7 File 252
8 306-081-009
9 File 253

4.8 The Inquiry and its experts also reviewed reports commissioned by the Crawford family, the Sperrin Lakeland Trust ('SLT') and the Coroner. These were provided by:

(i) Dr Dewi Evans[10] (Consultant Paediatrician, Singleton Hospital, Swansea), who was engaged by Lucy's parents in connection with the prosecution of a clinical negligence claim.

(ii) Dr John Jenkins[11] (Senior Lecturer in Child Health and Consultant Paediatrician at Antrim Hospital), who reported to the Directorate of Legal Services on behalf of Sperrin Lakeland Trust ('SLT') in connection with defending the claim brought by Lucy's parents.

(iii) Dr Edward Sumner[12] (Consultant Paediatric Anaesthetist at Great Ormond Street Children's Hospital), who provided the Coroner with an opinion for the purposes of inquest.

Schedules compiled by the Inquiry

4.9 To marshal and summarise the large volume of information received, a number of schedules, lists and chronologies were compiled:

(i) List of persons involved, cross-referencing statements and summarising roles.[13]

(ii) Schedule detailing Nomenclature & Grading of Doctors 1948 to 2012.[14]

(iii) Schedule detailing Nomenclature & Grading of Nurses 1989 to 2012.[15]

(iv) Chronology of clinical events.[16]

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10 325-002-013
11 325-002-013
12 325-002-013
13 325-002-001
14 303-003-048
15 303-004-051
16 325-003-001

(v) Consolidated Chronology: governance & lessons learned.[17]

(vi) Compendium Glossary of Medical Terms[18]

All of the above schedules, lists, chronologies and reports have been published on the Inquiry website in accordance with Inquiry protocol.

Cause of Death

4.10 The inquest into Lucy's death did not take place until February 2004, almost four years after her death. The verdict at inquest found that her death had been due to,

"*I (a) Cerebral oedema (b) acute dilutional hyponatraemia (c) excess dilute fluid*
II. gastroenteritis."[19]

4.11 Mr John Leckey, the Coroner for Greater Belfast found that:

"*On 12 April 2000, the deceased, who was aged 17 months, was admitted to the Erne Hospital, Enniskillen with a history of poor oral intake, fever and vomiting. The vomiting was sufficient to have caused a degree of dehydration and she required intravenous fluid replacement therapy. It was believed she was suffering from gastroenteritis. Her condition did not improve and she collapsed at about 3.00 am on 13 April, developing thereafter decreased respiratory effort and fixed and dilated pupils. Whilst in a moribund state she was transferred by ambulance shortly after 6.00 am to the Royal Belfast Hospital for Sick Children. Her condition remained unchanged and after two sets of brain-stem tests were performed showing no signs of life, she was pronounced dead at 13.15 hours on 14 April. She had become dehydrated from the effects of vomiting and the development of diarrhoea whilst in the Erne Hospital and she had been given an excess volume of intravenous fluid to replace losses of electrolytes. The collapse which led to her death was a direct consequence of an inappropriate fluid*

17 325-004-001
18 325-005-001
19 013-034-130

replacement therapy in that the use of 0.18% saline to make up deficits from vomiting and diarrhoea was wrong, too much of it was given and there had been a failure to regulate the rate of infusion. This led to the development of dilutional hyponatraemia which in turn caused acute brain swelling and death. The errors in relation to the fluid replacement therapy were compounded by poor quality medical record keeping and confusion by the nursing staff as to the fluid regime prescribed."

4.12 The findings of the Coroner were uncontroversial. Clinicians from the hospitals treating Lucy gave evidence at the inquest and accepted that the cause of the death was cerebral oedema due to hyponatraemia brought about in consequence of the infusion of excessive quantities of hypotonic fluid.[20] Why then did this consensus not emerge four years earlier and before Raychel was given inappropriate fluid therapy involving the same Solution No. 18, causing her to develop the same dilutional hyponatraemia within the same Western Health and Social Services Board ('WHSSB') area?

Lucy's admission to Erne Hospital on 12th April 2000

4.13 Lucy was admitted to the Erne Hospital in Enniskillen on Wednesday 12th April 2000 at 19:30. She presented with a history of drowsiness and vomiting and was placed under the care of Consultant Paediatrician Dr Jarlath O'Donohoe.[21] She was seen initially by the Senior House Officer ('SHO') in Paediatrics Dr Amer Ullah Malik.[22] Dr Malik could not be contacted by the Inquiry after he provided an initial response to a request for a statement.[23]

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20 Namely Dr Peter Crean (Consultant in Paediatric Anaesthesia and Intensive Care at the RBHS, Dr Thomas Auterson (Consultant Anaesthetist at the Erne Hospital), Dr Donncha Hanrahan (Consultant Paediatric Neurologist at the RBHSC and Dr John Jenkins (on behalf of the Sperrin Lakeland Trust).

21 325-002-001

22 325-002-001

23 WS-285-1 p.1

Admitted by Dr Malik

4.14 Lucy's parents explained to Dr Malik that she had not been feeding well, had had fever and vomiting for 36 hours and been drowsy for 12 hours.[24] Dr Malik admitted Lucy and arranged for blood and urine tests. He considered her dehydrated and decided to administer IV fluids.

4.15 Lucy had no medical history to complicate her care. She presented with symptoms consistent with gastroenteritis causing her dehydration. Her admission was for the purposes of rehydration. Hers should have been a straightforward and routine admission.

4.16 Clinicians grade dehydration as mild, moderate or severe.[25] Severe dehydration carries the risk of shock. It is important to assess the dehydration to inform the fluid management. However, neither Dr Malik nor Dr O'Donohoe recorded their assessment. Indeed, it is unclear whether any formal assessment was made of Lucy's dehydration even though Dr O'Donohoe recalled that she had presented with a moderate dehydration.[26] Clearly, if an assessment was made it ought to have been recorded in her clinical notes. Dr MacFaul examined the records and concluded that Lucy had, at worst, moderate dehydration.[27] The evidence given at inquest by Drs Sumner[28] and Jenkins[29] agreed that she was mildly dehydrated.

4.17 Lucy's initial blood test sample was taken at 20:50 on 12th April 2000.[30] It revealed an elevated urea of 9.9mmol/L (a sign of dehydration[31] and/or established shock[32]) and a normal sodium reading of 137 mmol/L.

Attendance by Dr O'Donohoe and commencement on IV fluids

4.18 Upon admission Lucy was taking fluids orally and not therefore dependent upon intravenous ('IV') fluids. Between 21:00 and 22:00, she drank 50ml

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24 027-009-020
25 250-003-021
26 Dr O'Donohoe T-06-06-13 p.27 line 15
27 250-003-031
28 013-036-139
29 013-032-118
30 027-012-031
31 250-003-021
32 250-003-022

of juice and 100ml of Dioralyte.[33] Dr O'Donohoe said she drank enthusiastically.[34] She also passed a small amount of urine at 20:00.

4.19 Dr Malik was unable to insert the IV cannula[35] and Dr O'Donohoe was called[36] at about 21:00[37] (according to Dr Malik) or 21:30[38] (according to Dr O'Donohoe) to place the cannula in her arm. She was commenced on IV fluids between 22:30 and 23:00.

Intravenous fluid therapy

4.20 IV fluids are administered for various purposes:

(i) As maintenance fluids to replenish normal ongoing losses from urine and insensible losses such as sweat.

(ii) As replacement fluids to replace abnormal losses such as those suffered through vomiting or diarrhoea

(iii) As resuscitation fluids in the management of circulatory failure whether in shock or when trying to prevent evolving shock.[39] This is commonly required when a patient is dehydrated.

Fluids received

4.21 Dr O'Donohoe claimed that he had intended that Lucy should receive a bolus of 100ml of normal saline in the first hour to be followed by Solution No.18 at 30ml per hour [40]

4.22 However, it would appear that Lucy was given at least 400ml of Solution No.18 intravenously from 22:30/23:00 until she suffered a seizure at around 03:00. Her fluids were then changed to normal saline.

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33 027-019-062
34 Dr O'Donohoe T-06-06-13 p.26 line 6
35 027-017-058, 013-009-023
36 013-009-023, 013-018-066
37 013-009-023
38 115-051-001
39 250-003-030
40 027-010-024

4.23 Whilst Dr MacFaul described Lucy's fluid balance chart as "*confusing*"[41] the following observations may be made with confidence:

(i) It was acceptable practice at that time to administer a bolus of 100ml of normal saline as a replacement fluid followed by 30ml per hour of half normal (0.45%) saline or even Solution No. 18 as maintenance fluids.

(ii) It was not appropriate to give Lucy a bolus of Solution No.18 as a replacement fluid for dehydration.[42]

(iii) It was not appropriate to give Lucy 100ml of any fluid after the first hour, and most certainly not Solution No. 18.

(iv) If Dr O'Donohoe intended that Lucy should receive a bolus of 100ml of normal saline in the first hour to be followed by 30ml per hour of Solution No. 18 he ought to have communicated this in clear and certain terms to Dr Malik and the nursing staff and completed all the necessary documentation to that effect.

(v) All fluids actually administered should have been accurately recorded so that there could be no misunderstanding as to what was received.

4.24 Dr O'Donohoe accepted that mistakes had been made in both the choice of Solution No. 18 and the rate at which it was administered. He stated that he had not intended Lucy to receive Solution No. 18 at a rate of 100 ml/hr and accepted that it was "*entirely inappropriate*."[43] He also accepted that he failed to ensure that his directions for Lucy were adequately understood.[44] His concessions are appropriate. However, there remained a dispute between him, the absent Dr Malik and Staff Nurse Brid Swift[45] as to the specifics of his fluid regime. This confirms the serious failure in both communication and record-keeping. However, given the limitations

41 250-003-034
42 250-003-030
43 Dr O'Donohoe T-06-06-13 p.20 line 12
44 Dr O'Donohoe T- 06-06-13 p.29 line 3
45 325-002-002

imposed by the terms of reference it is not appropriate for me to resolve this dispute between Dr O'Donohoe and his colleagues.

Infusion of normal saline

4.25 Having received an excessive volume of Solution No.18, Lucy suffered a seizure at approximately 02:55 on Thursday 13th April 2000.[46] Mrs Crawford called for help. Nurses arrived and Dr Malik attended soon afterwards. At around 03:20 Lucy suffered respiratory arrest and Dr Malik provided artificial respiration.[47]

4.26 At the suggestion of Staff Nurse Thecla Jones,[48] Dr Malik changed the fluids[49] from Solution No.18 to normal saline. It would appear that he directed that this should run freely.[50] It is unclear how much normal saline was then given because the records are poor. Whereas Staff Nurse Siobhan MacNeill[51] believed Lucy received 280mls,[52] Dr Malik's note suggests that 500 mls had been administered in one hour [53] and the fluid balance chart indicates 810mls between 03:00 and 06:00.[54]

4.27 Dr O'Donohoe was called and, if the records are correct, he arrived at 03:20.[55] He told the PSNI that he reduced the normal saline to 30ml per hour.[56] However, if he did, the change was not recorded and is contradicted by Staff Nurse MacNeill who stated that she administered the normal saline at 30 ml/hr from 04.50.[57] Moreover, the PICU fluid balance chart notes the reduction to 30ml/hr after 04:00.[58] To determine which, if any, of these accounts is accurate is academic because Lucy was already critically

46 027-010-024
47 027-017-057 & 027-010-024
48 325-002-002
49 115-014-002
50 115-014-002 & 027-017-057
51 325-002-003
52 115-016-002
53 027-010-024
54 027-025-076 & 115-014-002
55 027-010-022 & 027-010-024
56 115-051-002
57 115-016-002
58 027-025-076

overloaded with fluid. Furthermore and in all probability, she continued to receive too much fluid at too fast a rate even after her respiratory arrest.

4.28 Dr Thomas Auterson[59] (Consultant Anaesthetist) was contacted at 03:40 and arrived promptly to assist.[60] He observed Lucy's pupils to be fixed, dilated and unresponsive. He managed to intubate her but believes she was already beyond help. Nonetheless, he agreed with Dr O'Donohoe that she should be transferred to the Paediatric Intensive Care Unit ('PICU') at the RBHSC in case something more could be done for her. Lucy was then moved to intensive care for stabilisation and to await ambulance transfer to Belfast.

Sodium levels

4.29 Dr O'Donohoe ordered a repeat blood test[61] and the results received at 04:26 indicate that her sodium level had fallen from 137mmol/l to 127mmol/l.[62] Lucy, who had not been hyponatraemic on admission was suffering marked hyponatraemia after eight hours of hospital care. Disconcertingly the clinicians do not appear to have been curious as to why a moderately dehydrated patient should suffer a significant decline in her sodium level after her treatment had begun.

4.30 Whilst a sodium reading of 127mmol/l does not indicate dangerous hyponatraemia it should be noted that the saline solution prescribed by Dr Malik after her seizure would have raised her sodium levels and accordingly 127mmol/l is unlikely to have been her lowest reading.[63] Additionally, whilst a gradual decline from 137mmol/l to 127mmol/l over an extended period would probably have been manageable, the comparatively rapid decline suffered by Lucy was more dangerous.

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59 325-002-002
60 013-007-020
61 027-017-057
62 Result was timed at 04:26
63 WS-278-1 p.10 & WS-302-2 p.3

Transfer to the Children's Hospital

4.31 Lucy was taken the 80 miles to the RBHSC and arrived soon after 08:00 on 13th April 2000. She was accompanied by Dr O'Donohoe and Staff Nurse MacNeill.

4.32 Upon arrival Dr O'Donohoe supplied the on-call Consultant Paediatric Anaesthetist Dr James McKaigue[64] with a short transfer letter[65] and a transfer form[66] detailing observations recorded en route.[67] However, the clinical records from the Erne Hospital together with her blood test results[68] and x-rays[69] were not provided.

4.33 Significantly, Dr O'Donohoe's transfer letter failed to refer to the results of the serum electrolyte tests[70] or to the type, rate and volume of the IV fluids administered.[71] Such information was obviously relevant to the RBHSC clinicians who were taking over. Dr O'Donohoe explained that his was "*a brief note, written under very difficult circumstances*"[72] and maintained that had circumstances been more favourable, his letter would have been more detailed.

4.34 I consider it regrettable that further detail was not given but do not take the view that this was an attempt to conceal medical error. Dr O'Donohoe was acting under stress in an emergency and in any event, the clinical notes were sent later by fax and Dr Auterson supplied the results of Lucy's repeat urea and electrolyte test.[73]

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64 325-002-004
65 061-014-038
66 061-015-040
67 061-016-041
68 027-012-031-032 (laboratory results showing the serum sodium levels of 137mmol/l and 127mmol/l respectively).
69 061-014-039 (Dr O'Donohoe's transfer letter) and 033-102-317 (Dr Auterson's statement to Mr Fee)
70 250-003-102 - para 533, Dr MacFaul has noted that it is not evident that Dr O'Donohoe informed PICU staff of the low blood sodium.
71 250-003-102 - para 532, Dr MacFaul has identified the limited attention paid to Lucy's fluid management in the transfer letter.
72 Dr O'Donohoe T- 06-06-13 p.79 line 16
73 061-018-060 & 061-017-042

Admission to the Children's Hospital

4.35 Lucy was admitted to PICU under Dr Peter Crean[74] (Consultant in Paediatric Anaesthesia and Intensive Care). For reasons which are discussed in greater detail later in this chapter, this does not imply that Dr Crean was the lead clinician in respect of Lucy's care. In fact it was Dr Anthony Chisakuta[75] (Consultant in Paediatric Anaesthesia and Intensive Care) and Dr Donncha Hanrahan[76] (Consultant Paediatric Neurologist) who became most directly involved in her care. Dr McKaigue began an assessment of Lucy at 08:00 which was completed by Dr Chisakuta. Neither made any reference in their notes to Lucy's fluid regime at the Erne Hospital.

4.36 Lucy was then seen at 08:30[77] by SHO Dr Louise McLoughlin[78] and later on a ward round by Dr Caroline Stewart[79] (Registrar), Dr Dara O'Donoghue[80] (acting Registrar)[81] and Dr Crean. Lucy's sodium level was recorded at 140mmol/l. Dr Crean noted that he was "*awaiting faxes of her notes from the Erne Hospital and she is to be reviewed by a Paediatric Neurologist this morning.*"[82]

4.37 Dr Crean then made a telephone call to Dr O'Donohoe at the Erne Hospital to ask about Lucy's fluid therapy because he understood it to have been Solution No. 18 at 100ml/hr and naturally wanted clarification. This conversation must have taken place after Dr Crean received Lucy's Erne Hospital notes because they included the fluid balance chart. Dr O'Donohoe maintained that he told Dr Crean that he had directed "*a bolus of 100mls over 1 hour followed by 0.18% NaCl/Dextrose 4% at 30ml/hour.*"[83] Dr Crean does not remember the conversation.

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74 325-002-005
75 325-002-004
76 325-002-005
77 061-018-058
78 325-002-004
79 325-002-005
80 325-002-006
81 115-012-001
82 061-018-065
83 027-010-024

4.38 Dr Crean then arranged for Lucy to be seen by Dr Hanrahan who saw her at 10:30[84] and recorded his differential diagnosis which included infection, haemorrhagic shock encephalopathy, metabolic disease and unrelated cerebral oedema.[85] He also noted that the "*findings would suggest that she shows no sign now of brainstem function.*"[86] Dr Hanrahan did not identify hyponatraemia or fluid overload as contributory to the cerebral oedema but did express some uncertainty by noting "*no cause clinically evident as yet*."[87] He accepted that whilst he was aware of the fall in Lucy's sodium levels from 137mmol/l to 127mmol/l, he did not regard this as either marked or significant.[88]

Death

4.39 Dr Hanrahan directed neurological investigation to include a Computerised Tomography ('CT') scan and an Electroencephalography ('EEG'). The scan revealed obliteration of the basal cisterns suggesting 'coning' and the EEG failed to register cerebral function.[89] He noted at 17:45 that her "*prognosis, in my opinion, is hopeless and indications are that she is brain dead.*"[90] He then recorded that Lucy's parents were "*agreeable to her not being actively resuscitated*"[91] should she deteriorate overnight. He made reference to the necessity to test for brain stem death and noted, "*If she succumbs, a PM would be desirable – coroner will have to be informed.*"[92]

4.40 Dr Hanrahan expressed the opinion that Lucy was effectively "*brain dead on arrival in Belfast*"[93] but that the 'sentinel event' had occurred at the Erne Hospital.

84 061-018-060
85 061-018-063
86 061-018-063
87 061-018-063
88 116-026-005
89 061-032-098
90 061-018-065
91 061-018-066
92 061-018-066
93 013-025-093

4.41 Formal brain stem testing[94] permitted pronouncement of death at 13:15 on 14th April 2000.[95] Mrs Crawford recalled that she and her husband were told by Dr Hanrahan that they "*should seek answers from the Erne Hospital as to what happened to Lucy.*"[96] This conversation took place immediately after her death.

4.42 Dr Hanrahan then made contact with the Coroner's Office. Significantly, it was decided that Lucy's death did not require a Coroner's post-mortem but that a hospital post-mortem would suffice to clarify the cause of death. A death certificate was subsequently issued, but before the final post-mortem report was available. This recorded Lucy's death as having been caused by,

"*I(a). Cerebral oedema*
(b). due to (or as a consequence of) dehydration
(c). due to (or as a consequence of) gastroenteritis."[97]

4.43 The clear consensus of those from whom I received evidence was that the cause of Lucy's death should not have been stated on the death certificate in these terms because it made no sense to certify that the cerebral oedema was due to or a consequence of dehydration.

Opinions as to cause of death: Dr Auterson

4.44 Dr Auterson stated that after Lucy's death he reviewed the fluid balance chart and the sodium readings and concluded that "*hyponatraemia played a significant part in Lucy's deterioration and death*."[98] Indeed, he said that even when he was attending Lucy he reached the conclusion that she had been given too much of the wrong fluid and that this was the most likely cause of her hyponatraemia.[99] Dr Auterson confirmed that he had reached this view, which he characterised as a "*strong suspicion,*"[100] on the morning

94 061-019-070
95 061-018-068
96 013-022-079
97 013-008-022
98 WS-274-1 p.4
99 WS-274-1 p.5
100 Dr Auterson T-31-05-13 p.128 line 1

of Lucy's deterioration[101] and that he became more confident in this opinion in the days that followed.[102]

4.45 Dr Auterson said that he discussed the case informally with his anaesthetic colleagues in the day or two after the death.[103] He spoke to Dr Matt Cody who agreed with his suspicion "*that probably it was a fluid-related problem*"[104] and he discussed the case with Dr William Holmes who "*did not disagree with* [his] *presumptive diagnosis*" implicating the fluid management.[105]

4.46 Dr Auterson was carefully questioned about this account:

> "*Q. So… based on her neurological status, based upon the electrolyte results and taking into account the information you gleaned from the fluid balance chart, you recognised that fluids had caused the hyponatraemia and the hyponatraemia had caused the cerebral oedema?*
> *A. Yes.*
> *Q. That was your working diagnosis?*
> *A. Yes.*"[106]

4.47 It is a matter for concern that Dr Auterson did not volunteer this opinion when he made his statement for the Erne Hospital Review into Lucy's death.[107] He recognises that his failure to report these concerns to the Medical Director reflects badly upon him[108] and is something for which he may be legitimately criticised.[109] He explained that he did not articulate his view that the IV fluids were the likely cause of the hyponatraemia because he regarded that as "*an obvious conclusion*."[110]

4.48 Dr Auterson said that he expected others to form the same view. Dr O'Donohoe attended with him after Lucy's collapse and was also aware of

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101 Dr Auterson T-31-05-13 p.127 line 21
102 Dr Auterson T-31-05-13 p.136
103 WS-274-1 p.5
104 Dr Auterson T-31-05-13 p.156 line 23
105 Dr Auterson T-31-05-13 p.157 line 15
106 Dr Auterson T-31-05-13 p.124 line 10-25
107 033-102-316
108 Dr Auterson T-31-05-13 p.154
109 Dr Auterson T-31-05-13 p.163
110 WS-274-1 p.7

the repeat sodium results. According to Dr Auterson they had a brief discussion at that time acknowledging that Lucy may have received too much fluid.[111] He believed that Dr O'Donohoe was aware of his suspicions[112] and indeed recognised what had gone wrong at that time.[113] He subsequently assumed that Dr O'Donohoe would address this at the Review[114] and accordingly did not discuss the matter further. Dr Auterson said, "*Without seeming flippant, it's the elephant in the room. Why did nobody else come to this conclusion*?"[115]

4.49 Dr O'Donohoe was dismissive of Dr Auterson's evidence and in particular his claim to have understood so quickly that fluid mismanagement had triggered the sequence of events which led to the cerebral oedema.[116] Dr O'Donohoe insisted that Dr Auterson had not raised this suggestion at the time and emphasised that if Dr Auterson believed that Lucy had collapsed due to hyponatraemia he might have tried to remedy the situation by administering concentrated hypertonic saline, which he did not.[117] Dr O'Donohoe specifically rejected Dr Auterson's account that they had discussed fluid mismanagement at the time of the resuscitation.[118]

4.50 I accept that the evidence of Dr Auterson is unsatisfactory in some important respects. Why, if he had formed so strong a suspicion about what had gone wrong in Lucy's case, did he not voice that suspicion to others outside his circle of colleagues in the Anaesthetics Department? However, it must be noted that in this, his approach is consistent with what was done by others. Dr O'Donohoe's statement for the Review did not address the fluid mismanagement issues and Dr Malik did not address fluids at all.

4.51 Additionally, I consider that Dr Auterson was honest in describing how he formed his early suspicion that mismanagement was implicated in Lucy's hyponatraemia. He has accepted, properly in my view, that it is not to his

111 Dr Auterson T-31-05-13 p.139 line1
112 Dr Auterson T-31-05-13 p.165 line 12
113 Dr Auterson T-31-05-13 p.137 line 7
114 Dr Auterson T-31-05-13 p.136 line 21
115 Dr Auterson T-31-05-13 p.153 line 12
116 Dr O'Donohoe T-06-06-13 p.52-53
117 Dr O'Donohoe T-06-06-13 p.53
118 Dr O'Donohoe T-06-06-13 p.58

credit that he failed to communicate his suspicions at the time. This was a significant omission on his part because it acknowledged his failure to be straightforward and frank when that was his clear professional duty.[119]

4.52 I wish to emphasise that criticism is not confined to Dr Auterson alone. Whilst he, by his evidence, chose to expose himself to criticism, others have implausibly maintained that they had no misgivings about the fluid therapy. I conclude that there was a reluctance on the part of those responsible for Lucy's care in the Erne Hospital to speak out about what may have caused her death most probably because there was a suspicion that fluid mismanagement was responsible.

4.53 I do not accept that the cause of death could not have been established promptly and accurately. It was entirely possible to reach the conclusion of mismanagement in the immediate aftermath of Lucy's death. It could and should have been established almost immediately because Dr Auterson was not alone in forming this suspicion.

Dr Asghar's opinion

4.54 Dr Mohammed Asghar[120] was a paediatrician at the Erne Hospital who was not involved in Lucy's care. Nonetheless, it would appear that he interested himself in Lucy's clinical notes and may have spoken to others about the standard of care provided to her. He wrote to the Chief Executive of the SLT, Mr Hugh Mills[121] on 5th June 2000 in the following terms:

"*Lucy was admitted in the ward with a history of vomiting. The SHO could not put up the IV line so he called Dr O'Donohoe who was on call that night. Dr O'Donohoe examined the child and put up the IV line. The SHO then got busy with the other three admissions. Dr O'Donohoe told the nurse to give fluids at 100mls per hour. At three o'clock in the morning the child got a convulsion and went into respiratory arrest. She was later transferred to Belfast where she died. A P.M. revealed cerebral oedema. This child might*

119 315-002-009
120 320-002-004
121 325-002-008

have been given excess of fluids. All through the night fluids were running at 100mls per hour. After the child died in Belfast he made alterations in the chart. He wrote that he had ordered the fluids should be given as a bolus of 100mls and then at 30mls per hour. In fact, neither the SHO nor any of the nurses were told to give the fluids at 30ml per hour."[122]

4.55 Dr Asghar had no difficulty in recognising mismanagement of the fluids and the possible link between excess fluid and the cerebral oedema. His curiosity and desire to do the right thing stand in commendable contrast to those of his colleagues.

Dr Chisakuta's opinion

4.56 At the RBHSC Dr Chisakuta performed the brain stem death tests with Dr Hanrahan.[123] He gave evidence that "*throughout the course of [his] clinical involvement in Lucy's care on 14th April 2000* [he] *was giving consideration to the cause of her condition.*"[124]

4.57 Dr Chisakuta could not say for certain that he was involved in discussion with Dr C Stewart prior to her entering her clinical diagnosis in the autopsy request form, namely "*dehydration and hyponatraemia, cerebral oedema, acute coning and brain stem death*."[125] Nevertheless, he said that he probably would have agreed with that diagnosis because, "*From the medical clinical notes faxed to the PICU …Lucy had clinical symptoms and signs of dehydration for which she was prescribed intravenous fluids.*"[126] He went on to explain:

"*The serum sodium level was noted to have decreased from 137 mmol/l (measured at 8.30pm on 12/04/00)*[127] *to 127 mmol/l (measured around 3.20am on 13/04/00)*[128] *a condition referred to as hyponatraemia.*

122 032-090-175
123 WS-283-1 p.2
124 WS-283-1 p.6
125 061-022-073
126 061-017-044 to 046
127 061-017-049
128 061-017-050

During the stress of illness, the body produces a chemical called Anti-diuretic hormone, which causes the kidneys to retain the water. This also might have contributed to an increase in body water. In this situation, water tends to move from outside the cells into the cells causing them to swell up, a condition called oedema. When this happens to the brain cells, it is referred to as cerebral oedema.

Cerebral oedema can lead to coning and brain stem death.

This sequence of events seems to me to fit Lucy's case so I speculate that if there was a discussion with Dr Stewart as has been suggested, that I would have been agreeing with her working pathogenesis."[129]

4.58 Dr Chisakuta accepted that the missing link in Dr C Stewart's description was an account of how Lucy could have gone from a state of dehydration to one in which she was suffering from hyponatraemia.[130] He said he would have wanted the fluid management problem to have been stated explicitly in the list of problems.[131]

4.59 In his evidence Dr Chisakuta was asked specifically whether at the time of Lucy's death he had any idea what the cause was. He told me that he knew that Lucy had died because her brain had coned due to the development of cerebral oedema and that while the cause of this "*could have been a combination of things*"[132] he was aware that one of the possible factors was that "*she had lots of fluids in the other hospital.*"[133]

4.60 Dr Chisakuta went on in his evidence to reiterate that he was "*conscious of the possibility that a possible or probable cause of Lucy's death was the volume of fluid that she had been given in the Erne.*"[134] He said that this concern about the standard of treatment Lucy received was in his mind from the 14th April 2000.[135]

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129 WS-283-2 p.6
130 Dr Chisakuta T-29-05-13 p.103 line 7
131 Dr Chisakuta T-29-05-13 p.105 line 2
132 Dr Chisakuta T-29-05-13 p.67 line 14
133 Dr Chisakuta T-29-05-13 p.67 line 17
134 Dr Chisakuta T-29-05-13 p.70 line 7
135 Dr Chisakuta T-29-05-13 p.70-71

Dr Evans' opinion

4.61 Dr Evans was retained by solicitors acting on behalf of the Crawford family and asked to examine and report on the events leading to Lucy's death. He reported on 18th February 2001 that:

(i) A combination of errors by clinicians at the Erne Hospital contributed significantly to Lucy's death.

(ii) There was a failure to calculate the fluid replacement required by Lucy and document the results.

(iii) There was a failure to give adequate instruction as to the type and volume of fluid indicated.

(iv) The decision to use 0.18% NaCl ('Solution No. 18') was wrong, given the nature of Lucy's condition.

(v) The decision to infuse Solution No. 18 at a rate of 100ml per hour was wrong.

(vi) The decision to administer 500ml of 0.9% NaCl after her collapse was wrong.

(vii) It is probable that the very significant change in her electrolytes was caused by the infusion of an excessive volume of dilute fluid and further that it could not be explained on the basis of "*some conjectural inappropriate ADH secretion.*"

(viii) If Lucy had been managed according to the basic standards of district general hospital paediatric practice by deploying a bolus of isotonic intravenous solution (such as 0.9% NaCl or HAS) in a volume of 90ml-180ml, followed by 0.45% NaCl (with added potassium) at a rate of no more than 70ml/hr, she would not have developed cerebral oedema.[136]

[136] 013-010-025 to 036

4.62 Dr Evans gave his opinion within a year of Lucy's death and within a short time of receiving her hospital notes. His views mirrored the findings which the Coroner was to reach at inquest some three years later. Dr Evans did not claim any particular expertise in the field of fluid management.

Dr Jenkins' opinion

4.63 The Directorate of Legal Services ('DLS'), on behalf of the SLT, commissioned a report from Dr Jenkins.[137] He concluded on 7th March 2002 that Lucy had been given the wrong fluids. Dr Jenkins was clear that she should have been given replacement fluid with higher sodium content than Solution No. 18. Ideally she should have been given normal saline. Acknowledging that "*it is always very difficult to understand an episode of sudden collapse,*" he expressed the opinion that the fall in Lucy's serum sodium and potassium "*raise*[d] *the question as to the fluid management in the period from insertion of the IV line at 2300 to the collapse at around 3.00am.*"[138]

Dr Moira Stewart's opinion

4.64 In September 2000 the SLT requested the Royal College of Paediatrics and Child Health ('RCPCH') to conduct an external review into Dr O'Donohoe's competence and conduct.[139] The RCPCH nominated Consultant Paediatrician Dr Moira Stewart[140] to undertake this task.[141]

4.65 Dr M Stewart was asked to examine a number of cases in which Dr O'Donohoe had acted as Consultant. The focus of her review was the overall conduct and competence of Dr O'Donohoe. She was not asked to provide specific analysis of what had caused Lucy's death notwithstanding that part of her remit necessarily included Lucy's case. She was briefed

137 013-011-037
138 013-011-038
139 036a-009-016
140 325-002-010
141 036a-010-019

with Lucy's medical notes, post-mortem report and a report provided the Trust by Dr Murray Quinn[142] in connection with the Trust's internal Review.

4.66 Dr M Stewart's report was received in April 2001.[143] Whilst concern has been raised about possible delay by the RCPCH in presenting its report because it was published too late to be of assistance to those treating Raychel Ferguson in June 2001, I consider that Dr M Stewart is not to be faulted for the time she took to produce her report. This was difficult work and it was carried out with great diligence. She was asked to consider not only Dr O'Donohoe's competence in the context of Lucy's case but also in four other cases. She was obliged to devote appropriate time to each. There is no reasonable basis for suggesting that she ought to have produced a report prior to April 2001.

4.67 The report identified several possible explanations for Lucy's death including:

"*(ii) She had a seizure like episode due to underlying biochemical abnormality. Initial sodium was 137 mmol/L, and potassium 4.1 mmol/L at 10.30pm. At 3.00am, and after administration of 0.18% NaCl, the repeat sodium was 127, and potassium 2.5. Biochemical changes are often well tolerated and easily corrected with appropriate fluid replacement, although these results do show a change over a relatively short period of time.*"[144]

4.68 Dr M Stewart indicated that there were "*deficiencies in the prescription and recording of volumes of fluids*"[145] and emphasised that in cases of moderate or severe dehydration, the Advanced Paediatric Life Support ('APLS') guidelines specify the use of normal saline and not the low saline fluids given Lucy. In addition Dr M Stewart observed that even after collapse Lucy received 500mls of normal saline in one hour whereas the

142 325-002-009
143 036a-022-039
144 036a-025-056
145 036a-026-060

appropriate volume should have been 20mg/kg.[146] In other words she considered that Lucy was also given an excessive volume of normal saline.

4.69 On 1st June 2001 Dr M Stewart met with Dr James Kelly,[147] the Medical Director of the SLT to discuss the report. His memorandum of their meeting noted that

"*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.*"[148]

4.70 For her part, Dr M Stewart gave evidence that by the end of the meeting she had left Dr Kelly in no doubt that the likely cause of Lucy's collapse was the fall in sodium levels caused by fluid mismanagement.[149] It was clear to me that Dr M. Stewart's evidence was given with a confidence not apparent in her written report. As Dr Kelly maintained, at the meeting with him she only went so far as to say that fluid mismanagement leading to electrolyte derangement *could* have caused the terminal deterioration:

"*I think my understanding of it was that Dr Stewart's telling me that 127, even in a child, you wouldn't automatically expect a seizure, but the rate of change of electrolytes could have caused the seizure or likely caused the seizure. The issue for me was that did not go on to say,* "*This is clearly the cause of death or this is clearly the cause of very significant brain oedema.*" *That conversation didn't follow from that...*"[150]

4.71 On balance I am prepared to accept Dr Kelly's evidence that Dr M. Stewart expressed her opinions with a measure of equivocation during their meeting. It was properly conceded on Dr M. Stewart's behalf that "*she should have been more explicit as to how the hyponatraemia and the rate of change in electrolytes could have resulted from the high volume of*

146 036a-025-058
147 325-002-007
148 036a-027-067
149 Dr M Stewart T-18-06-13 p.76 line 9
150 Dr Kelly T-13-06-13 p.69 line 12

Solution 18"[151] Nevertheless, and whilst it appears that she did not express a definitive conclusion about the process leading to the cerebral oedema either in her report or in her discussions with Dr Kelly, I am satisfied that she did condemn Lucy's fluid regime.

4.72 Dr M. Stewart's conclusions reinforce my finding that the probable causes of Lucy's death were readily identifiable in the period immediately following her death. I conclude that not only could the Coroner's findings of 2004 have been made in 2000 had an inquest been conducted but that they were in fact reached with one degree of precision or another by Drs Auterson, Asghar, Chisakuta, Evans and M. Stewart.

4.73 Therefore, the question which must be asked is, why did an accurate assessment of the cause of Lucy's death not emerge at the outset whether at the Erne or at the RBHSC

Initial concerns expressed at the Erne Hospital

4.74 After Lucy had been transferred to the RBHSC Dr Crean made a telephone call to the Erne Hospital to clarify the detail of fluid management. He spoke to Dr O'Donohoe.[152]

4.75 Dr O'Donohoe cannot remember the specific details of the conversation but accepts that it caused him to question whether Lucy had received the fluids he had intended for her.[153] He was prompted to check Lucy's notes to see what was recorded about her fluid therapy.[154] He discovered that Dr Crean was right to be concerned because the fluids given to Lucy before her collapse were recorded as having been infused at 100mls/hr.

4.76 It was in this context that he made the following retrospective entry in Lucy's notes:

"*Yesterday Dr Peter Crean rang from PICU RBHSC to enquire what fluid regime Lucy had been on. I told him a bolus of 100mls over 1 hour followed*

151 400-034-007 - Submissions on behalf of Dr M Stewart
152 WS-292-1 p.5
153 WS-278-1 p.4
154 WS-278-1 p.5

by 0.18% NaCl/Dextrose 4% at 30 ml/hour. He said he thought that it had been NaCl 0.18%% Dextrose 4% at 100ml/hr. My recollection was of having said a bolus over 1 hour and 30ml/hour as above."[155]

4.77 Dr O'Donohoe did not however make any contact with the RBHSC thereafter to confirm that Lucy had not been given the fluids intended or indeed to indicate any error. However, Dr Crean and others at RBHSC were already of the view that the fluids given were inappropriate.

4.78 Dr O'Donohoe did however report his concerns to his Medical Director Dr Kelly as a '*critical incident reporting'* on the 13th/14th April 2000.[156] He cannot now remember what he said to Dr Kelly but confirms that it related to the quantity of fluids given.[157] Dr Kelly recalled that Dr O'Donohoe indicated uncertainty about what had happened and raised several possibilities, including misdiagnosis, drug error and adverse drug reaction. Dr Kelly said that Dr O'Donohoe made it very clear to him that there had indeed been confusion in respect of fluids.[158]

4.79 Additionally, Sister Etain Traynor[159] of the Erne Hospital, who had not been involved with Lucy's care, tried to find out what had happened. She checked the nursing record and fluid balance sheets and notwithstanding the "*minimal information recorded*"[160] approached the Clinical Services Manager Mrs Esther Millar[161] to express her "*concerns that the IV fluids administered had (although not recorded or prescribed) may (sic) have contributed to the child's deterioration…*"[162]

4.80 Sister Traynor said that she told Mrs Millar that if Lucy was given 100ml per hour for a number of hours then that would have been too much and "*may well have contributed to her collapse*."[163] This was then reflected in the

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155 027-010-024
156 It is unclear from the evidence when precisely Dr O'Donohoe made his report to Dr Kelly. I note that in submissions on behalf of Dr Kelly the 13th April 2000 is put forward; submissions made on behalf of Dr O'Donohoe suggest the 14th April. In my view nothing of significance turns on this discrepancy.
157 WS-278-1 p.6
158 116-043-003
159 325-002-003
160 WS-310-1 p.3
161 325-002-008
162 WS-310-1p.4
163 Sister Traynor T-07-06-13 p.159 line 23

clinical incident report form compiled by Mrs Millar on 14 April 2000 which recorded, "c*oncern expressed about fluids prescribed/administered...*"[164]

4.81 All of this confirms for me that very soon after Lucy's death Dr O'Donohoe knew that there had been error with the fluids and that concerns were being expressed by others within the hospital.

Discussion with Mr and Mrs Crawford at the Erne Hospital

4.82 Mr and Mrs Crawford contacted Dr O'Donohoe and requested a meeting to discuss their daughter's death.[165] They must have hoped to find out what had happened and why she died. They met in May 2000. It is not suggested that Dr O'Donohoe or the Trust sought to avoid such a meeting but there is no indication that anyone from the Trust actively pursued one.

4.83 Whilst it should have been the first step to giving Mr and Mrs Crawford a proper understanding of what had happened to Lucy, it was in fact a most unproductive meeting. Dr O'Donohoe arrived without Lucy's medical notes. Whilst acknowledging that this was a failing he said in explanation that he had "*tried unsuccessfully to retrieve Lucy's notes*."[166]

4.84 Mrs Crawford recalled how disappointing the meeting had been:

"*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.*"[167]

4.85 Dr O'Donohoe accepted that he was unable to answer their questions, making it, even on his own admission, an unsatisfactory meeting.[168] He disputed the suggestion that he couldn't answer the questions because he didn't have access to the notes on the even more unsatisfactory basis that

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164 036a-045-096
165 WS-278-1 p.13
166 WS-278-1 p.13
167 013-022-079
168 Dr O'Donohoe T-06-06-13 p.166 line 11

even if he had had notes he still would not have been able to answer their questions.[169]

4.86 Dr O'Donohoe's most unprofessional approach to meeting Mr and Mrs Crawford is confirmed by his failure to inform them about any mismanagement of the fluids or his telephone conversation with Dr Crean. That did not require access to Lucy's medical notes. Even if he did not then fully understand the part poor fluid management had played in Lucy's deterioration, a position about which I have some doubt, I consider that he had a clear obligation to admit that mistakes had been made and to assist Mr and Mrs Crawford to an eventual understanding of their significance. Dr O'Donohoe conceded that he ought to have told Lucy's parents about the fluids, if only to let them know that the intended Review process would have a focus as opposed to something that was "*undirected*."[170]

4.87 However, Mr and Mrs Crawford are very clear that Dr O'Donohoe did not tell them that there would be a Review.[171] Dr O'Donohoe maintains that he told them that he had "*asked Dr Kelly, as the Trust's Medical Director to look into the matter.*"[172] However he did accept that his choice of words may have been "*very unhelpful*" in actually describing the process of review.[173]

4.88 The meeting with Lucy's parents was particularly unsatisfactory. Even, and perhaps most especially, at a first meeting they had the right to be told of the circumstances of their daughter's death and of the mismanagement of her fluid therapy. Dr O'Donohoe had a duty to explain fully what he knew to have happened.[174] They should furthermore have been advised explicitly about the Review of her case. That they were not so advised raises the concern that the issues were deliberately withheld so as to avoid blame and criticism.

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169 Dr O'Donohoe T-06-06-13 p.168 line 9-21
170 Dr O'Donohoe T-06-06-13 p.169 line 6
171 036c-017-042
172 Dr O'Donohoe T-06-06-13 p.168 line 16-17
173 Dr O'Donohoe T-06-06-13 p.169 line 19
174 315-002-009 - GMC- Good Medical Practice (1998)

4.89 Mr and Mrs Crawford then went to see Dr Hanrahan at the RBHSC on 9th June and he in turn contacted Dr O'Donohoe to ask him to meet with them again. Dr O'Donohoe said that whilst he would arrange a further meeting, he would prefer to await the post-mortem report.[175]

4.90 I accept that that was a sensible thing to do, particularly after the unsatisfactory first meeting. A delayed meeting would allow Dr O'Donohoe time to review Lucy's notes, consider the opinion of the pathologist and reflect upon the case in the light of his own direct involvement.

4.91 Regrettably, Dr O'Donohoe failed to make contact with the family to arrange a further meeting. He was unable to provide any explanation for this omission[176] but acknowledged that it was a failing on his part.[177] I consider that Dr O'Donohoe's refusal to tell Mr and Mrs Crawford what he knew and what they were entitled to know was inexcusable.

4.92 I do not underestimate how difficult such meetings must be for doctors, especially in the case of child death where there is no definitive explanation for the death. It must be even more difficult where clinical shortcomings are suspected. Nonetheless it remains vitally important that such meetings take place. Paragraph 18 of the contemporaneous General Medical Council ('GMC') code 'Good Medical Practice' required that where "*…a patient under 16 has died you must explain, to the best of your knowledge, the reasons for, and the circumstances of the death, to those with parental responsibility.*"[178]

4.93 A recurrent theme of this Inquiry has been the determination expressed by parents to ensure that lessons are learned so that the mistakes which led to the death of their child cannot be repeated. I have reached the view that once the possibility of error is openly acknowledged by clinicians there remains nothing to conceal and learning is incentivised. It is clear to me that one of the main obstacles to learning in these cases has been the

175 061-018-069
176 Dr O'Donohoe T-06-06-13 p.167
177 400-033-004 - Submissions made on behalf of Dr O'Donohoe
178 315-002-009

failure by clinicians and others to inform families of suspected mismanagement at the earliest opportunity.

Review

4.94 It was entirely appropriate that the SLT should establish a formal Review in order to examine what had happened to Lucy.

4.95 It is to be recognised that at that time governance arrangements in Northern Ireland hospitals were not well developed. Mr Eugene Fee[179] (Acute Services Manager, SLT) explained that formal clinical and social care governance was not implemented until late 2000.[180] Nonetheless, arrangements for adverse clinical incident reporting were in place and Dr Kelly lost no time in bringing the matter to the attention of the Trust Chief Executive Mr Mills, requesting that the case be investigated by a senior Review Team. The Review was to be co-ordinated by Mr Fee with the assistance of Dr Trevor Anderson[181] (Clinical Director for Women and Children's Directorate).

4.96 The stated object of the Review was:

"*...to trace the progression of Lucy's illness from her admission to the Erne Hospital and her treatment/interventions in order to try and establish whether:*

There is any connection between our activities and actions and the progression and outcome of Lucy's condition

Whether or not there was any omission in our actions and treatments which may have influenced the progression and outcome of Lucy's condition

Whether or not there are any features of our contribution to care in this case which may suggest the need for change in our approach to the care of patients within the Paediatric Department or wider hospital generally."[182]

179 325-002-008
180 Mr Fee T-13-06-13 p.103 line 16
181 325-002-008
182 033-102-264

4.97 Mr Mills noted on 20th April 2000 that, "*Mr Fee advised that the patient's notes recorded a comment from Dr O'Donoughoe (sic) that he was uncertain about the instructions he gave staff about the rate of flow of I.V. fluids. Child had been given 100mls per hour for 4 hours. He states he meant this to be 100mls per hour for the first hour and 30mls per hour thereafter. However, when child collapsed anaesthetic support had prescribed more fluids. Post mortem results indicated cerebral oedema. Mr Fee felt he required advice from a Paediatrician. I agreed I would arrange this...*"[183]

4.98 In order to secure expert Paediatric opinion, Mr Mills contacted Dr Murray Quinn (Consultant Paediatrician, Altnagelvin Area Hospital) who agreed to look at Lucy's notes and to provide advice.[184] Mr Fee then wrote to Dr Quinn on 21st April 2000 that:

"*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."[185]

4.99 Mr Fee informed Mr Mills that he had spoken with the medical and nursing staff[186] and had requested written statements from six individuals.[187] It was agreed that a health visitor would be asked to communicate with the Crawford family and inform them that the circumstances of Lucy's death were being examined.

183 030-010-017
184 030-010-018
185 033-102-296
186 030-010-017
187 030-010-018

4.100 At that stage, the Review appeared well founded in that it was being led by a senior hospital manager with the assistance of the relevant Clinical Director, it had the support and interest of both the Trust's Medical Director and Chief Executive, it was commencing its investigation promptly and within days of the adverse incident, it had the expertise of an external Consultant Paediatrician and had access to all relevant clinical and nursing staff. Furthermore, on the face of it a channel of communication had been established with Lucy's parents.

4.101 Regrettably, the Review failed to establish that any error was implicated in the sequence of events leading to the death or even that there were any significant shortcomings in care. The Review report findings were remarkably inconclusive. They indicated that:

"*Lucy Crawford was admitted to the Children's Ward, Erne Hospital on 12 April 2000 at approximately 7.30pm having been referred by her General Practitioner. The history given was one of 2 days fever, vomiting and passing smelly urine. The General Practitioner's impression was that Lucy was possibly suffering from a urinary tract infection. The patient was examined by Dr Malik, Senior House Officer, Paediatrics, who made a provisional diagnosis of viral illness. She was admitted for investigation and administration of IV fluids. Lucy was considered to be no more or less ill than many children admitted to this department. 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 13 April 2000, or why cerebral oedema was present on examination at post-mortem.*"[188]

4.102 In assessing the quality of the Review I have taken into account the under developed state of clinical governance, the lack of support for the role of Medical Director, the lack of training in the process of review[189] and that the more developed investigation techniques of today were not then available.

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188 033-102-265

189 Dr R. MacFaul T-27-06-13 p.120 line 12

Method

4.103 The Review method was to consider Lucy's case notes and post-mortem, obtain written statements from the relevant staff, engage Dr Quinn, discuss matters with the Ward Sister, Infection Control Nurse and Dr Quinn and consider his written report.[190]

4.104 There was, however, only limited commitment to gaining a detailed account of the facts of the case. Dr Quinn asked Dr Kelly and Mr Fee whether there "*could there have been earlier seizures resulting in hypoxia for 15-20 minutes prior to catastrophic seizure event?*"[191] The reviewers did not engage with his questions. They blandly reported that "*with the exception of Nurse McCaffrey's report, little detailed descriptions of the event are recorded and no account appears to be in existence of the mother's description, who was present and discovered Lucy in this state.*"[192] Seemingly no one sought more detailed descriptions or asked Lucy's mother.

4.105 Dr Quinn received no further instructions and this may have hampered his ability to form necessary conclusions. He certainly expressed his uncertainty in relation to key issues:

"*Did the child have a seizure or did she "cone" at 3.00am?*

I feel it is very difficult to say what happened in and around this time. It is certainly possible that she had a seizure and may even have had a period of time when she was hypoxic before medical attention was drawn to the fact that she was unwell. However I cannot say that this is the case. It may be that mother informed the ward staff immediately she noted the problem but again this is not clear to me from the notes provided."[193]

4.106 The obvious failure to identify and examine key aspects of the incident inhibited findings on fluid management issues. The Review catalogued much that was then unclear and required investigation, noting for example

190 033-102-265
191 036a-047-101
192 033-102-266
193 036a-048-105

that "*There was no written prescription to define the intended volume. There was some confusion between the Consultant, Senior House Officer and Nurses concerned, in relation to the intended volume of fluid to be given intravenously. There is a discrepancy in the running total of the intravenous infusion of solution 18 for the last 2 hours. There is no record of the actual volume of normal saline given when commenced on a free flowing basis.*"[194]

4.107 However, having raised these issues there appears to have been little attempt to address them. What was the confusion between the Consultant, the House Officer and the Nursing team? What was the discrepancy in the record of infusion of Solution No. 18, and how did this occur? How much normal saline was administered? What did the treating clinicians consider to be mistakes and what did they think were the implications? None of these questions was satisfactorily explored by the Review and I am bound to ask why, because there was every prospect of obtaining the answers had the reviewers pursued them.

4.108 Dr Anderson was keen to emphasise the distinction between 'investigating' and 'reviewing' a case[195] just as Mr Fee insisted that he was conducting a 'review' rather than 'investigating' a death. Their evidence suggested that neither was determined to pursue critical questions.

4.109 Dr Quinn had asked how much normal saline had been administered because had Lucy received 500ml "*this may have affected the level of cerebral oedema experienced at post mortem.*"[196] However, the information was not provided to the satisfaction of Dr Quinn, causing him to observe in his report that he was "*not certain how much normal saline was run in...*"[197] This was a failure Mr Fee could not explain. That the Review should respond to Dr Quinn's query about the administration of normal saline in such a casual manner is symptomatic of the general lack of thoroughness. Notwithstanding that the Review ought to have focussed on fluid management matters, Mr Fee and Dr Anderson allowed some

194 033-102-266
195 Mr Fee T-13-06-13 p.116 line 5
196 036a-048-106
197 033-102-273

participants to avoid all mention of fluids. Extraordinarily, the Review was actually characterised by a general failure to describe fluid management error and the potential implications.

4.110 The Review had sought from each clinician a "*factual account of the sequence of events from their perspective.*"[198] This was interpreted narrowly and the co-ordinators accepted what was submitted without demur or follow-up. There was an obvious absence of rigour and clinical curiosity. It is troubling that having knowingly commenced a review into the fluid and electrolyte management of a patient who had died, that they did not ask more questions about the management or appraise the evidence in order to identify the limited co-operation which they had received.

4.111 Clinicians should have been specifically requested to explain and justify the fluids given and to articulate any concerns. Dr Malik's approach should have been challenged and Dr Auterson asked to address the issues more specifically. The clinicians should not have been permitted to avoid proper explanation. It is a matter of concern that the reviewers should tolerate rather than challenge Dr O'Donohoe's avoidance of the issues. He was asked neither for detail nor explanation as to what had happened. This was unacceptable and illustrates how timidly Mr Fee and Dr Anderson approached the Review.

4.112 Mr Fee agreed that the failure of clinicians to engage with the Review "*stares out at you*" from their statements.[199] However, it was their responsibility to ensure that the clinicians did not evade the issues. The clinicians should have been pursued and required to provide answers. Mr Fee could not account for this failure[200] but insisted that it was not in consequence of any deliberate decision.[201]

4.113 Mr Fee and Dr Anderson were responsible for a Review which was inadequate. This was a failure of the individuals and of governance. They

198 033-102-285
199 Mr Fee T-13-06-13 p.145 line 7-8
200 Mr Fee T-13-06-13 p.146 line 7
201 Mr Fee T-14-06-13 p.37 line 17

were inexperienced and untrained in the conduct of reviews of this nature and they were not assisted by the clinicians involved. They were possibly deflected by the misleading conclusions of Dr Quinn. However this can afford them only partial mitigation. Lucy's death was caused by a glaring medical error and if Mr Fee and Dr Anderson had thought about it they would have recognised that the clinicians were consistent in avoiding this central issue, and it would appear, deliberately so.

Dr O'Donohoe's contribution to Review

4.114 In assessing Dr O'Donohoe' contribution to the Review I have had regard to the findings reached by the GMC that his acts or omissions were not in Lucy's best interests and fell below the standard to be expected of a reasonably competent physician.[202] The GMC determined 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 for monitoring its progress. Moreover, the GMC concluded that the entry made in Lucy's notes by Dr O'Donohoe on the 14 April 2000 following his conversation with Dr Crean, was both "inaccurate and misleading." Furthermore, it was found that the fluid therapy which Dr O'Donohoe "claimed to have ordered" was not communicated properly to those administering the fluid and was in any event, inappropriate.

4.115 It has been said on Dr O'Donohoe's behalf that his role in the events following Lucy's death was "*of a very limited compass*" and that he was only involved with the aftermath "*to a comparatively limited degree.*"[203] I disagree with this analysis. Dr O'Donohoe could and should have played the central role in identifying the mismanagement in her care and in assisting the review to determine what it was that had caused her death. It is clear that he failed to fulfil that role.

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202 163-005-001

203 400-033-002 to 004 - para 7 & 25(4), Submissions made on behalf of Dr O'Donohoe

4.116 In his statement for the Review, Dr O'Donohoe rehearsed those fluids which he claimed to have directed Dr Malik to give Lucy, namely 100mls as a bolus over the first hour and then 30mls per hour thereafter.[204] However, he knew very well that Lucy had not received those fluids. He had checked this issue after Dr Crean's telephone call and knew that Lucy had received Solution No. 18 at a rate of 100ml/hr until she suffered a seizure and that thereafter she had been given a large quantity of normal saline. He did not refer to these important matters in his statement. He knew that her fluid management was wrong and he avoided saying so.

4.117 Dr O'Donohoe, having stated that he could not remember why he did not particularise the fluids actually given,[205] ventured to explain that he didn't know that Dr Anderson was conducting a Review on behalf of the Trust and that in any event Dr Anderson liked to receive short, factual reports.[206] Ultimately, Dr O'Donohoe accepted in his evidence that his avoidance of all reference to fluid mismanagement in his statement was a failing and he expressed regret.[207]

4.118 It was said on Dr O'Donohoe's behalf that his mental and physical health had declined since the events in question and that his memory was in consequence impaired.[208] While all of this may be so, I found his explanations implausible and bizarre. Dr O'Donohoe contended that at the time of Lucy's death it did not occur to him that her deterioration was "*a fluid balance issue*" although he accepted in retrospect that this is precisely what should have occurred to him at the time.[209] He stressed that he did not think her repeat serum sodium level of 127mmol/l could be associated with "*such a profound catastrophic outcome.*"[210] In defence of his position Dr

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204 033-102-293
205 WS-278-1 p.8
206 Dr O'Donohoe T-06-06-13 p.148 line 1-8
207 400-033-004 - Submissions made on behalf of Dr O'Donohoe
208 400-033-002 - Submissions made on behalf of Dr O'Donohoe
209 Dr O'Donohoe T-06-06-13 p.13 – This position was consistent with his evidence before the General Medical Council by whom he was condemned for serious professional misconduct.
210 Dr O'Donohoe T-06-06-13 p.100 line 8

O'Donohoe relied on the fact that the issues were not clarified by the post-mortem undertaken at the RBHSC.[211]

4.119 I do not consider that Dr O'Donohoe should necessarily have reached the initial conclusion that errors of fluid management caused the death. Rather, I believe that an experienced paediatrician with a developed understanding of this field of medicine should have suspected that fluid mismanagement could be implicated. Instead of engaging with the Review on this issue, he remained silent. This was unacceptable.

Dr Malik's contribution to the Review

4.120 Dr Malik submitted a statement for the Review[212] but made no reference whatever to the fluids. His omission is extraordinary. His failure to engage was not challenged by those conducting the Review. At best, this was worryingly complacent.

4.121 Dr Malik had been present when Dr O'Donohoe gave his directions for Lucy's fluid management. So much is clear from Dr O'Donohoe[213] and Staff Nurse Swift.[214] However, Dr Malik stated that having admitted Lucy for "*administration of intravenous fluids*"[215] he was probably called away before Dr O'Donohoe directed Lucy's fluids.[216] Even if Dr O'Donohoe and Staff Nurse Swift are wrong and he was absent when the fluids were prescribed, Dr Malik nonetheless had the opportunity to identify the fluids because they were still running when he returned to see her at 03:00. I conclude that he knew what she had been given and ought to have said so in his statement.

4.122 Furthermore, Dr Malik's position that he "*did not mention the rate and volume of fluid actually received by Lucy as* [he] *was not the one who initiated the fluid regime*"[217] is disingenuous. The fact that Dr Malik did not

211 Dr O'Donohoe T-06-06-13 p.112 line 8
212 033-102-281
213 033-102-293
214 033-102-295 & 033-102-290
215 033-102-281
216 033-102-281
217 WS-285-1 p.9

initiate the pre-collapse fluids is irrelevant and merely avoids explanation of what he knew.

4.123 Dr Malik was likewise evasive in relation to the fluids administered after collapse. Staff Nurse Sally McManus[218] confirmed that Lucy's fluids were changed to normal saline with Dr Malik in attendance.[219] Accordingly, Dr Malik was probably responsible for that prescription and indeed he recorded the infusion of 500ml normal saline over 60 minutes.[220] However, he chose not to mention it in his statement for the Review.

4.124 I consider that a remarkable and telling failure. The decision to discontinue Solution No. 18 and infuse as much normal saline as possible for an hour was a radical change in treatment and required clear explanation. Dr Malik ought to have particularised and justified the treatment he directed rather than omitting all reference to it.

4.125 Dr Malik said that he had only been asked to deal with his role in caring for Lucy and had not been asked for his view about the appropriateness of the treatment.[221] However I consider that it was his responsibility to inform the Review both about the treatment given and the reasons for that treatment. He was no mere bystander but an active participant.

4.126 Dr Malik said that he was reassured because his consultant Dr O'Donohoe had made the initial prescription and there were senior nurses present who would have challenged the treatment had they been concerned.[222] This is inconsistent with the explanation he gave to the GMC that "*...the nursing staff should not have started the fluid without written prescription; they should have been aware of the inappropriate amount of fluid regime and they should have queried it with me or the consultant.*"[223] His evidence and attitude confirms my suspicion that he was aware that the treatment

218 325-002-002
219 027-017-057
220 027-010-024
221 WS-285-1 p.10
222 WS-285-1 p.10
223 WS-285-1 p.22

provided was open to criticism and that is why he was so unhelpful when asked to account for it.

4.127 In assessing Dr Malik's conduct, I take into account the fact that at the time of Lucy's death he was a relatively inexperienced paediatrician. His appointment to the Erne as an SHO appears to have been his first substantive appointment to a paediatric post in the UK.[224] He did not give oral evidence and so his Inquiry witness statement could not be tested. Whilst I appreciate that it may have been difficult for him to travel from Pakistan, he made no application to be excused.

4.128 I conclude that Dr O'Donohoe and Dr Malik were aware that the fluid management was flawed. It is troubling that they should have deliberately avoided dealing with the issue for the Review. They disregarded their duty as doctors to co-operate fully with the Review and specifically not to withhold relevant information.[225] They acted unprofessionally and by so doing undermined the critical process of review.

Dr Auterson's contribution to the Review

4.129 I have already reviewed Dr Auterson's engagement with the Review process.

4.130 He was at all times under a professional duty to make proper disclosure.[226] In his evidence he admitted that he was ashamed by his failure to assist the Review but said that, "*There was no deliberate attempt on my part to conceal any facts. The fact that I did not mention fluid balance and possible errors on that in my report* [for the Review]*, I can't explain it, it's a bad reflection on me.*"[227]

4.131 In many respects the motivation for Dr Auterson's silence is not the most important issue, but it does seem to me very likely indeed that he failed to

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224 WS-285-1 p.18
225 315-002-009 - GMC Good Medical Practice (1998)
226 315-002-009
227 Dr Auterson T-31-05-13 p.153 line 23

inform management of Lucy's care because of a misplaced loyalty to colleagues.

Dr Murray Quinn's report for the Review

4.132 The decision to appoint an 'outside' Consultant Paediatrician to advise was sound in principle. However, Dr Quinn imposed limitations on his involvement. He did not wish to interview clinicians or meet the family. His was a paper exercise which involved examining the records, identifying issues, raising questions and attempting to draw conclusions. He was not asked for a formal medico-legal report. Such limitations were likely to reflect in the quality and completeness of his work.[228] He maintained that the Trust knew what he was prepared to do and accepted his approach.[229] This confirms the Trust's lack of ambition for the Review which undermined its prospects from the start.

4.133 Dr Quinn agreed that he was obliged to bring professional rigour to his task.[230] His work may have been limited but he was to do it to the best of his professional ability. In the event, Dr Quinn was unable to identify the ultimate cause of the cerebral oedema.[231] That may have been understandable but his report made fundamental errors which served to mislead.

4.134 Dr Quinn was an experienced Consultant Paediatrician and the medical issues of gastroenteritis, dehydration, fluid and electrolyte therapy and cerebral oedema were all within his competence to analyse.[232] Nonetheless, errors appear in his report which individually and cumulatively gave the Trust reassurance when its clinicians ought to have been subject to criticism.

4.135 Dr Quinn categorised the use of Solution No. 18 to manage the fluids of a child with recent vomiting and diarrhoea as "*appropriate.*"[233] He later

228 Dr Quinn T-14-06-13 p.99 line 23
229 Dr Quinn T-14-06-13 p.99 line 14
230 Dr Quinn T-14-06-13 p.97-98
231 036a-048-106
232 Dr Quinn T-14-06-13 p.109 line 19
233 036a-048-104

acknowledged that this was wrong, explaining that he used "*this 'appropriate' term, which is maybe inappropriate, on the perception that the doctors in the Erne felt she wasn't very sick, and therefore at that time were going to use fifth-normal saline for maintenance or mild dehydration.*"[234]

4.136 There are problems with this analysis because Dr Quinn knew from the notes that Dr O'Donohoe claimed to have intended a different fluid regime for Lucy not involving Solution No. 18 at 100ml/hr.[235] Accordingly, Dr Quinn's perception that the doctors thought her in a better state of health than she was, had no basis in fact. In any event, his report did not contain this explanation. If he believed that they used the wrong fluid because they underestimated the severity of her condition then it was his obligation to say so. He should not have engaged in an analysis on the basis that the doctors were correct in using Solution No. 18 when he recognised that this was in fact a mistake.

4.137 Dr Quinn accepted that Lucy had not been mildly dehydrated but was suffering dehydration in the order of 5%-10%. In such circumstances it was necessary to administer fluids containing more sodium than Solution No. 18.[236] He should have made this observation and with force but did not. Dr Quinn sought unconvincingly to argue that it was at least possible that he could have told the Trust that the fluid should have been normal saline.[237] However, the note of his meeting with Dr Kelly and Mr Fee on the 21 June 2000 clearly records him expressing a view that "*choice of fluid correct.*"[238] Similarly, his report written the following day, described the choice of fluid as "*appropriate.*"[239]

4.138 Dr Quinn failed to adequately condemn the fluids given as excessive. Whilst he insisted that he had always taken the view that the volume of fluids administered "*was absolutely incorrect*"[240] this does not emerge

234 Dr Quinn T-14-06-13 p.134-135
235 Dr Quinn T-14-06-13 p.121 line 19 & 027-010-024
236 Dr Quinn T-14-06-13 p.138 line 8
237 Dr Quinn T-14-06-13 p.148 line 10
238 036a-047-101
239 036a-048-104
240 Dr Quinn T-14-06-13 p.141 line 10

clearly from his report. It notes that Lucy received 100ml/hr of Solution No. 18 over a four hour period[241] but is silent as to whether Lucy's condition warranted the infusion of 100ml/hr. Moreover, Dr Kelly's note of their meeting on 21 June 2000 records Dr Quinn as indicating that "*fluid replacement 4 hours @ 100mls provided was greater than normal but not grossly excessive.*"[242] By contrast, Dr Quinn agreed in oral evidence that not only did Lucy receive the wrong fluid, but she received it at a rate (100ml/hr) which would only have been acceptable had she been much more dehydrated than he believed.[243]

4.139 Notwithstanding, that the volume of normal saline given was not clarified to Dr Quinn's satisfaction by the co-ordinators of the Review his working notes indicate that he was suspicious that 500ml had been administered.[244] Regrettably, he did not use his report to highlight the basis for this justifiable concern, nor did he indicate that the infusion of such a volume could have contributed to the oedema. This was in strong contrast to the directness with which he gave his oral evidence when he described a volume of 500ml as "*massively excessive.*" He explained that running that volume into a sick child of Lucy's weight would place "*tremendous strain on the right side of the heart.*"[245]

4.140 Additionally, Dr Quinn reported that he would have been "*surprised*" if the volume of fluid given "*could have produced gross cerebral oedema causing coning.*"[246] That this was his stated view is confirmed by Dr Kelly's note.[247] Whilst Dr Quinn denied this,[248] I am nonetheless satisfied that this was the impression given to Dr Kelly. In his discussions with the Trust as in his written report, Dr Quinn expressed himself in such a way as to mislead as to the appropriateness of the type and volume of fluids given and to

241 036a-048-104
242 036a-047-101
243 Dr Quinn T-14-06-13 p.173 line 19
244 WS-279-1 p.35
245 Dr Quinn T-14-06-13 p.126 line 17
246 036a-048-105
247 036a-047-101
248 Dr Quinn T-14-06-13 p.167 line 19

communicate a sense that the fluid therapy presented little cause for concern.

4.141 Dr Quinn also failed to recognise that because the normal saline was infused before the blood sample was taken, the serum sodium count could have been even lower than the 127mmol/l recorded. Whilst Dr Quinn admitted that he did not seek clarification in relation to the sequencing before writing his report,[249] I received no adequate explanation from him as to why his written report should have so failed in analysis.

Criticisms of Dr Quinn

4.142 It has been suggested on Dr Quinn's behalf that it would be fair to criticise him for three errors only: describing the infusion of Solution No. 18 as "*appropriate*" because this was potentially misleading (albeit not intentionally so); for failing to state explicitly in his report that it was intended as a 'desk-top' review and not a medico-legal report; and for allowing himself to be persuaded to commit his thoughts to writing at all.[250]

4.143 I agree that these concessions were properly made, but there is an additional concern. Importantly, Dr Quinn failed to draw attention to what he knew to be a possibility, namely that the mismanagement of fluids could have caused the fatal cerebral oedema. In his defence Dr Quinn considered that he was not in a position to give an opinion on the likely cause of the cerebral oedema and coning because he had not been provided with all the necessary information.

4.144 Notwithstanding that Dr Quinn did not receive all the materials which would have been supplied to him had he been asked to conduct a detailed investigation and whilst accepting that Dr Quinn may not have been able to reach a definitive conclusion because he had not spoken to Lucy's mother, nursing staff or the clinicians involved, it is nonetheless clear, that he could have identified the poor fluid management and indicated that it could have

[249] Dr Quinn T-14-06-13 p.117
[250] 400-029-009 to 011 - Submissions on behalf of Dr Quinn

caused the cerebral oedema and coning.[251] He properly accepted that by omitting this from his report the Trust may have been falsely reassured.[252]

4.145 Dr MacFaul described Dr Quinn's report as "*wrong and misleading.*" I agree with that view. Indeed, it is reasonable to conclude that the conclusions in his report about fluid management were directly contradicted in his oral evidence. I consider that his approach to the task demonstrated a reluctance to criticise other professional colleagues. This has been a recurring theme in this Inquiry. There were certainly deficiencies in the information supplied to him, but I take the view that he had sufficient information to be more critical of the treatment provided to Lucy, and that he ought to have alerted SLT to more problems than he did. He was keen to adopt a limited role and was insufficiently committed to his task to give the issues which confronted him the attention they deserved. He approached his obligation to report without due professionalism.

Independence of Dr Quinn

4.146 The appointment of Dr Quinn to assist with the Review has been questioned on the basis that he may have lacked the independence necessary to assess the issues with obvious detachment. It was of fundamental importance that he should express independent views without fear or favour and that there should be confidence that he was so doing.

4.147 Dr Quinn was at that time employed as a consultant in the Altnagelvin Area Hospital which was run, like the Erne Hospital, within the same WHSSB area. Additionally, Dr Quinn had previously provided paediatric services to the Erne Hospital and knew some of the clinicians who worked there including Drs Anderson and O'Donohoe. He knew Mr Mills both professionally and socially.

4.148 I am concerned there was no assessment by the Trust of the potential for conflict of interest.[253] Dr Quinn was a very poor choice to conduct this work

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251 Dr Quinn T-14-06-13 p.150 & p.156 line 18 & p.154 line 22
252 Dr Quinn T-14-06-13 p.163 line 22 & p.164 line 2
253 162-002-006 - Dr Michael Durkin has commented that Dr Kelly, in his capacity as Medical Director, ought to have made such a record.

on behalf of Trust, not least because of his professional and social connections. The Trust is to be criticised for retaining an expert who was not transparently independent.

4.149 It is clear to me that Dr Quinn did not approach his task with the necessary degree of professional detachment. His familiarity with the organisation and the people who had retained him plainly influenced him. He has indicated that he was "*sweet talked*" into providing a written report for the Review against his better judgment.[254] He should not have carried out this work on behalf of the Trust, and should not have been asked to do so.

Deployment of Dr Quinn's Report by Sperrin Lakeland Trust

4.150 Mr Crawford made a formal complaint to the Trust on 22 September 2000 requesting that it investigate the "*inadequate and poor quality of care provided.*"[255] He was entitled under the 1992 Patient's Charter to expect that this would be dealt with quickly with a full investigation and written report to be issued within one month. Additionally, the Trust had been issued with Departmental guidance on handling complaints by the HPSS Executive in 1996.[256] This emphasised as a "*key objective*" an approach which was honest and thorough.[257]

4.151 Mr Mills eventually made the Trust's substantive response to Mr Crawford on 30 March 2001. He sought to reassure him that,

"*the outcome of our review has not suggested that the care provided to Lucy was inadequate or of poor quality. As you will be aware, the Trust engaged an independent consultant, from another Trust, to review Lucy's case notes and to advise us on this very question. We do however accept and acknowledge that the review has flagged up issues which the Trust will*

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254 In the UTV Insight documentary Dr Quinn used the term *"sweet talked."* It was an unfortunate turn of phrase in this context. However, I note the submission made on Dr Quinn's behalf that I should not place importance upon it. I agree that of itself, the use of the phrase does not assist me in coming to a determination in relation to whether his independence was compromised.

255 015-014-114

256 314-016-001 - Complaints: Listening…Acting…Improving. Guidance on Implementation of the HPSS Complaints Procedure.

257 314-016-006

wish to address for the future. These include communication and written records, and are referred to in Mr Fee's report."[258]

4.152 The deliberate impression conveyed was that the independent expert's advice had established that there were no inadequacies in the care. Mr Mills did not tell Mr Crawford that the RCPCH had been asked to review Lucy's case as part of a broader appraisal of Dr O'Donohoe's competence. I am concerned that Mr and Mrs Crawford were encouraged to conclude that there had been a proper consideration of the issues surrounding their daughter's death and that the Trust was justified in defending the quality of care provided.

4.153 Mr Mills insisted that he was entitled to respond to the complaint in this way given what he knew at the time.[259] He contended that it was only after engaging with the RCPCH, the litigation process and the inquest that the Trust could understand the inadequacy of the care.[260]

4.154 Nevertheless, there were problems with Mr Mills' decision to deploy Dr Quinn's report in response to Mr Crawford's complaint because it had not been commissioned or compiled for that purpose. Dr Quinn's report was a "*desk-top review*"[261] undertaken without detailed investigation for the purpose of "*highlighting issues rather than attempting to provide definite conclusions.*"[262]

4.155 Dr Quinn had very clearly not intended his report to be conclusive. It expressed uncertainties about whether Lucy had suffered a seizure, why she was floppy, what her mother had observed and even how much normal saline she had been given.[263] Such statements as were obtained by Mr Fee and Dr Anderson were not shared with Dr Quinn. Dr Quinn had written that "*It is always difficult when simply working from medical and nursing records and also from not seeing the child to get an absolutely clear picture*

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258 015-034-146
259 Mr Mills T-17-06-13 p.143 line 21
260 Mr Mills T-17-06-13 p.144 line 2
261 Dr Quinn T-14-06-13 p.106-107
262 Dr Quinn T-14-06-13 p.102 line 17
263 036a-048-105

of what was happening..."[264] His report raised more questions than it supplied answers.[265] However, no such uncertainty was conveyed to Lucy's parents.

4.156 Furthermore, Dr Quinn's report did not absolve the Trust, and Mr Mills was wrong to suggest that it did not identify inadequacies in the care. Dr Quinn had "*questioned a lot of what had been done in terms of the record keeping and the IV fluids*"[266] and for his part, Mr Fee was very properly prepared to accept that the failures identified by Dr Quinn's report were "*deficits in the quality of care provided to Lucy*."[267]

4.157 Mr Mills should not have suggested that Dr Quinn's report was an independent expert determination of the adequacy and quality of the care because it was not. It was misleading to suggest his reported view to Mr Crawford as an answer to the complaint. It was not. That the Trust chose not to furnish Mr Crawford with a copy of Dr Quinn's report compounds the obvious failure to respond with the openness and fairness expected of it by the Departmental guidance.[268]

Involvement of RBHSC and Mr and Mrs Crawford

4.158 Mr Fee acknowledged that there were no restrictions on how he or Dr Anderson should conduct their Review. Notwithstanding, the Review was markedly limited in the scope of its inquiry. Whilst the obvious first step would have been to approach the RBHSC for input[269] this was not done and there is no good explanation as to why it was not done. Dr MacFaul believed it "*an outstanding deficit*" of the Erne Review process that the opinions of the RBHSC clinicians were not sought.[270]

4.159 Nor did the Trust formally notify Mr and Mrs Crawford of the Review process, invite them to participate in the Review or advise them as to the

264 036a-048-106
265 400-029-008 - Submissions on behalf of Dr Quinn
266 Dr Quinn T-14-06-13 p.181 line 8
267 WS-287-1 p.21
268 314-016-018
269 Mr Fee T-13-06-13 p.149 line 1
270 250-003-093

procedure and terms of reference. Dr Anderson[271] could not even recall any suggestion that they be involved in the Review process.[272] He accepted that Mrs Crawford should have been asked to participate.[273] So too did Mr Fee[274] and Dr Kelly.[275] Mr Crawford did not even learn of the Review until almost four weeks after he had lodged his complaint.[276]

4.160 It could never have been a very meaningful Review without asking for Mr and Mrs Crawford's contribution. Lucy's parents had every right to be told that their child's death was to be investigated. In addition Mrs Crawford was a witness to key events. It is therefore remarkable that the final Review report should have expressed regret at the absence of an account of the seizure suffered by Lucy from Mrs Crawford.[277] It should have been a straightforward matter to seek her input and it should have been done.

4.161 Dr Kelly, as Medical Director, was responsible for ensuring that the Review was effective and appropriate. His failure to ensure that the family was involved cannot be explained by reference to his inexperience in his role or by the demands of a busy professional life.[278] Since the report of the Review referred explicitly to the absence of an account from Mrs Crawford, his failure to ensure that engagement defies common sense.

Report

4.162 At the conclusion of the Review it should have been obvious that it had failed to make clear findings. Whilst the conclusions ostensibly provided some reassurance, Dr Quinn's report left much to be investigated. Notwithstanding that it was clearly not too late to seek input from Mrs Crawford or to make a request for the opinion of the RBHSC clinicians,[279] the report was finalised and published on 31st July 2000.

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271 WS-291-2 p.5
272 Dr Anderson T-11-06-13 p.52 line 19
273 Mr Fee T-13-06-13 p.111-112
274 WS-287-1 p.16
275 Dr Kelly T-13-06-13 p.83 line 17
276 015-020-121
277 036a-053-125
278 400-030-012 para 19-20 - Submissions made on behalf of Dr Kelly
279 250-003-067

4.163 The Review report appears sanitised. It concluded that "*there was some confusion between the Consultant, Senior House Officer and nurses concerned in relation to the intended volume of fluid to be given intravenously.*"[280] The problems were very much more profound than just volume or communication. It is accordingly a matter of concern that the findings of the Review were not shared or discussed with the clinicians in the Erne Hospital. Further error would then have been detected. If, for example, Dr Quinn's report had been shown to Dr Auterson, he could have immediately pointed out the error in deeming the use of Solution No. 18 'appropriate.'

4.164 The Trust should have acknowledged the limitations of the Review and identified the need for further investigation. Mr Fee could not recall this being considered[281] but conceded, that with the benefit of hindsight, that he was,

> "*… not now satisfied with the review we conducted or the conclusions we reached given the findings of the inquest. On reflection, we should have involved the family at the outset; the review should have been conducted using a more systematic approach such as a Root-Cause Analysis. The Team selected should probably have benefitted from the inclusion of a Paediatrician and an experienced paediatric nurse and perhaps the Medical Director. We probably relied too much on the external opinion without having the expertise to examine the opinion offered. The case should probably have been jointly reviewed or investigated by the two hospitals involved in Lucy's care.*"[282]

4.165 Dr Anderson not only adopted this statement but said that he thought at the time that Dr Quinn's conclusions were suspect but felt in no position to challenge them. He believed he discussed this with Mr Fee but Mr Fee had no recollection of this.[283] Notwithstanding, the Trust regarded itself satisfied

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280 033-102-266
281 Mr Fee T-14-06-13 p.44 line 19
282 WS-287-1 p.20
283 Mr Fee T-14-06-13 p.46 line 21

with the work of the Review and answered Mr Crawford's complaint on that basis.

4.166 The Review report recommended that the family should be invited to a meeting to discuss its findings.[284] However, the Trust did not send the report to the Crawfords but suggested instead that it would be shared with them at a meeting at which Trust officials would explain the findings.[285] The Trust only finally shared the report in January 2001, six months after it had been finalised.

4.167 On the face of it the Trust wanted such a meeting in order to convey to the Crawfords a proper understanding of the Review's findings.[286] However, I detect a determination on the part of the Trust to control the manner in which the family would receive and interpret the information to which they were entitled. This approach is confirmed by the fact that even when a copy of the report was finally made available, it was stripped of its recommendations together with the appendices and the report of Dr Quinn.[287] There can be no justification for this and Mr Fee could offer no explanation.[288]

4.168 It was submitted on behalf of Dr Kelly that his failure to recognise the flawed nature of the Report at the time was in part understandable because he was reliant on the apparently conscientious work of Mr Fee and the appearance of the 67 page Review report complete with appendices and external paediatric opinion gave every impression of being comprehensive.[289]

4.169 I cannot accept this submission. Dr Kelly was the Trust Medical Director and had responsibility to ensure the adequacy of the Review. If Dr Kelly had adequately considered the Review report he could not have failed to recognise that it and the investigation were substandard. I accept that

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284 033-036-076
285 015-019-119
286 015-024-127
287 015-028-133 to 136
288 Mr Fee T-14-06-13 p.71 line 17
289 I also note the reliance which Dr Kelly's legal advisors have placed on the report of Dr M.A. Durkin dated 22nd August 2011: 162-002-001. I have given full consideration to the opinions expressed by Dr Durkin.

serious adverse clinical incident reviews were not commonplace at that time but consider that there can be no excuse for a Medical Director who fails to recognise that obvious enquiries have not been made.

4.170 On one interpretation the Review was deliberately superficial and Dr Kelly knowingly accepted a flawed report because it helped to conceal the truth about what had happened to Lucy. That is not my conclusion. I do not believe that Dr Kelly conducted himself in that way. Rather, I accept that Dr Kelly, Mr Fee and Dr Anderson and the Trust took some steps to discover what had gone wrong. However, those steps were clearly not sufficient. They failed to uncover the glaring failures in the treatment of a girl who, apart from a minor ailment, was otherwise healthy, and who was rendered moribund as a result of that treatment a few hours after it was initiated. Nobody has suggested to the Inquiry that the cause of Lucy's death was difficult to discern. What was lacking was a willingness to involve the Crawford family and be open to the need to criticise those involved with Lucy's care.

4.171 I consider that Dr Kelly, on behalf of the Trust, presided over a process which was ineffective and which, as a consequence, failed to identify medical mismanagement in causing her death. He ought to have identified the need to initiate an external review to resolve the questions left unanswered by Dr Quinn. For those failures he is to be criticised.

Failure to disclose the findings of RCPCH Reports to Mr and Mrs Crawford

4.172 The initial failure of the SLT to be transparent and straightforward with Mr and Mrs Crawford was repeated when the Trust received the first RCPCH report which clearly challenged any perception that the care provided to Lucy was adequate. It was received by the Trust in late April 2001[290] and dealt in part with Dr O'Donohoe's practice in the context of Lucy's treatment.

[290] 036a-022-039

4.173 Dr M. Stewart reported "*deficiencies in the prescription and recording of volumes of fluids administered.*"[291] In particular she stressed that in cases of moderate or severe dehydration APLS guidelines recommended the use of normal saline and not Solution No. 18.[292] Her report also indicated that after collapse, Lucy was given an excessive volume of normal saline.

4.174 I consider that having received this report, the Trust was then subject to a continuing obligation to provide the family with this new information because it superseded both the Review findings and the response which Mr Mills had provided in answer to Mr Crawford's complaint.

4.175 The RCPCH produced a second report for the Trust on the 7th August 2002.[293] It went further than the first report to conclude that:

"*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 hindsight there seems to be little doubt that this girl died from unrecognised hyponatraemia although at the time this was not so well recognised as at present.*"[294]

4.176 This was unequivocal external opinion that the hyponatraemia was a direct cause of death and that it was linked to the fluid regime.[295] Dr Kelly regarded this as an advance on what was previously known, which was likewise acknowledged by Mr Mills.[296] However, no one within the Trust sought to correct the view given to the Crawford family that Lucy had received an acceptable standard of care. All those who were involved on behalf of the Trust, particularly Dr Kelly and Mr Mills in this context, are to be criticised because all were under a duty to ensure that Mr and Mrs Crawford were not misled.

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291 036a-025-060
292 036a-025-058
293 035-021-074
294 035-021-077
295 Dr Kelly T-13-06-13 p.77 line 19
296 Mr Mills T-17-06-13 p.163 line 22

4.177 As before, the report was not shared with Lucy's parents.[297] Mr Mills explained that by the time the Trust received the RCPCH reports the family had commenced legal action against the Trust and that in this context he "*would have sought assurance that the reports were shared with the Trust's legal representatives for their advice.*"[298] There is no evidence that the Trust was advised against disclosing either report and indeed there are strong grounds for considering that the report should have been drawn to the attention of the Crawford's as part of the very process of litigation.

4.178 Accordingly, it seems likely that a decision was taken that the Crawford family should not see the reports. In addition, they were not disclosed to the Coroner and whilst it was argued that there was no legal duty to furnish the reports to the Coroner,[299] I am left to consider the motivation for such deliberate non-disclosure to the next of kin. The obvious explanation is that they were deliberately withheld to keep from the Crawford family the known connection between medical mismanagement and the death of their daughter.

4.179 Mrs Crawford said that she and her husband "*were not listened to and sidelined in every way*" and that "*everyone was avoiding the most important issue, what happened to Lucy?*"[300] Mr Mills, the Chief Executive of the Trust, was ultimately responsible for ensuring that there was a full and transparent engagement with Mr and Mrs Crawford. Regrettably, I must find that the Trust's engagement with them was reluctant, incomplete, defensive and misleading. The Chief Executive must bear responsibility for this failing.

Sperrin Lakeland Trust and the Western Health and Social Services Board

4.180 The SLT was directly accountable to the Department of Health and Social Services and Public Safety ('the Department') in respect of the provision

297 Dr Kelly T-13-06-13 p.80 line 14 - The accounts of Mr Mills and Dr Kelly suggest that a copy of the second report from the RCPCH was not even shared with the Western Health and Social Services Board, although in his evidence Dr Kelly recalled that he spoke to Dr McConnell and Mr Martin Bradley about the report in the context of achieving changes in the Paediatric Department of the Erne Hospital.

298 WS-293-1 p.18

299 400-030-022 to 023 - Submissions made on behalf of Dr Kelly

300 013-022-079

and management of services.[301] The main commissioner of those services was the WHSSB under a 'purchaser-provider' service agreement [302]

4.181 Whilst remaining accountable to the Department and with no accountability to the WHSSB in management terms, the Chief Executive of the Trust nevertheless continued to report to and discuss significant issues with the WHSSB because it required assurance that the services purchased were of appropriate quality. If problems arose in respect of those services, the WHSSB expected to be told. The WHSSB was thus able to exert influence over the Trust and require compliance with the terms of its service agreement which emphasised, amongst other things, the importance of effective clinical governance.[303]

4.182 It was in this context that Lucy's death was reported to the WHSSB. Dr William McConnell,[304] then Board Director of Public Health, was informed on the day of Lucy's death.[305] Mr Martin Bradley,[306] then Chief Nursing Officer for the Board, met Mr Mills on 19th April and the death was discussed.[307] Both Dr McConnell and Mr Bradley were responsible to Dr Thomas Frawley[308] (General Manager, WHSSB) and he too was informed.[309] The death became the subject of discussion at subsequent meetings between Trust and WHSSB officials.

4.183 Lucy's death was not, however, reported to the Department which was not notified until March 2003 when the Coroner informed Dr Henrietta Campbell,[310] the Chief Medical Officer ('CMO').[311] The WHSSB expectation at the time was that the Trust would report such a serious clinical incident to both the Board and the Department.[312] Mr Bradley considered a report to the Department was critical, because the

301 251-002-004
302 WS-293-1 p.11
303 WS-308-1 p.67
304 325-002-009
305 030-010-017
306 325-002-010
307 030-010-017
308 325-002-010
309 WS-308-1 p.9
310 337-001-002
311 006-010-294
312 See, for example, the evidence of Mr Bradley T- 18-06-13 p. 112 line 7

"*Department also ultimately is in a better position* [than the Board] *to influence policy and to pick up on regional learning that needs to be implemented*."[313] I accept this analysis.

4.184 Dr McConnell insisted that he advised Mr Mills to report Lucy's death to the Department at that time, although the detail of his recollection was somewhat vague.[314] Mr Mills had no memory of this[315] and said that in any event at that time he would only have reported financial and strategic matters to the Department. He maintained that the Trust did not at that time report adverse clinical incidents to the Department and there was no expectation that it should.[316] He even questioned whether there was mechanism at that time to make such a report.

4.185 Indeed, there was then no designated reporting procedure by which Trusts might report serious adverse clinical incidents to the Department. Mr Bradley sympathised with Mr Mills and acknowledged that there was probably a lack of clear direction about how such matters could be reported.[317] However, I consider that it should have been natural to report to the Department. It did not make sense for the Trust to make a report to the WHSSB and not the Department because the Trust was directly accountable to the Department and that accountability was not solely limited to financial and strategic matters. Lucy's death ought to have been reported to the Department in the same way as Raychel's death was reported by Altnagelvin Hospital a year later.

4.186 The question arose as to whether the WHSSB had a responsibility to ensure that the Trust reported the death to the Department and to the Coroner.[318] I do not consider that it was any part of the Board's duty to monitor the Trust so closely as to ensure that its experienced and well qualified health professionals performed routine reporting tasks.

313 Mr Bradley T-18-06-13 p.113 line 20
314 Dr McConnell T-19-06-13 p.30 line 12-14
315 Mr Mills T-17-06-13 p.62 line 2-4
316 Mr Mills T-17-06-13 p.54 line 1-15
317 Mr Bradley T-18-06-13 p.115 line 1
318 251-002-007 to 008 & 015

4.187 The WHSSB did, however, recognise its responsibility to ensure that lessons were learned from adverse clinical incidents occurring within the undertakings of its service providers. Mr Bradley said that whilst the Board would not become involved in a clinical incident investigation it would certainly wish to consider any recommendations arising and if there were obvious problems it would have had a responsibility to raise those with the Trust.[319]

4.188 Given that the Trust had reviewed the circumstances of Lucy's death, Dr Frawley expressed the view that the WHSSB should then have examined the outcome of that Review. He indicated that "*...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.*"[320]

4.189 It is unlikely that the Review report was forwarded on any formal basis to the WHSSB[321] but both Dr McConnell[322] and Mr Bradley[323] informally obtained copies. Nevertheless the death and the Review findings ought to have come before the Board's Healthcare Committee for consideration.[324]

4.190 Dr McConnell accepted that he had a responsibility to bring known adverse clinical incidents to the attention of this Committee[325] and he said that he would be "*amazed*" if that had not been done in this case.[326] He said that he would generally have wanted to be reassured that a Trust had "*got to the bottom of a serious adverse incident*" and having done so he indicated

319 Mr Bradley T-18-06-13 p.119 lines 14-17
320 WS-308-1 p.8
321 WS-308-1 p.26
322 WS-286-1 p.8
323 Mr Bradley T-18-06-13 p.131 line 11
324 Mr Bradley explained to me that the Healthcare Committee of the WHSSB was the appropriate mechanism within which a variety of professionals could meet to discuss the output from a Trust's review: Mr Bradley T-18-06-13 p.120 line 10
325 Dr McConnell T-19-06-13 p.7 line 14
326 Dr McConnell T-19-06-13 p.39 line 6

that he would have envisaged a role for the WHSSB in terms of reporting any lessons to other Trusts, other Boards and possibly to the Department.[327]

4.191 However, the Committee minutes make no reference to Lucy's case and there is no evidence to suggest that this important Committee ever discussed Lucy's death or its implications. Professor Scally considered it the responsibility of the WHSSB to point out "*significant deficiencies*" and that it was "*remiss of them*" not to do so in this case.[328]

4.192 Mr Bradley conceded that it was "*extraordinary*" that the WHSSB had not openly discussed the outcome of the Trust Review[329] and properly acknowledged that the Board's handling of the report into Lucy's death was not "*its finest hour.*"[330]

4.193 Such failure on the part of the WHSSB to ensure proper examination of the Review report was a serious neglect of its responsibilities. I consider that it is at least possible that had the report been deliberated upon in committee by experienced healthcare professionals they would have identified some of the most serious issues presented by Lucy's case and raised them, not only with the Trust, but with the Department.

4.194 Notwithstanding, the officers of the WHSSB were clearly concerned by Lucy's death. Mr Bradley visited the Paediatric Unit of the Erne Hospital to familiarise himself with where Lucy had been treated and subsequently worked with Directors of Nursing in the Board area to address some of the issues raised by Lucy's case including the importance of clinical records and the necessity to avoid ambiguity in prescribing.[331]

4.195 Dr McConnell insisted that he discussed the Review report with Dr Kelly and told Dr Kelly that because the Review had failed to establish the cause of death, further work was necessary. Specifically, he claimed to have

327 Dr McConnell T-19-06-13 p.22 line 6
328 251-002-011
329 Mr Bradley T-18-06-13 p.137 line 12
330 Mr Bradley T-18-06-13 p.148 line 13
331 Mr Bradley T-18-06-13 p.144 line 24

recommended "*a wider review*" involving external independent experts[332] and indicated that Dr Kelly agreed with him and undertook to discuss it within the Trust.[333] This indeed would have been sensible and appropriate.

4.196 Professor Scally expressed the view that the WHSSB should have exerted its influence over the Trust to ensure that it engaged with the RBHSC in order to establish an independent review of Lucy's care with written terms of reference and appropriate expertise.[334]

4.197 However, the Trust instead chose to engage the RCPCH to review the general professional competence and conduct of Dr O'Donohoe. Whilst there was also good reason to commence such a review given broader concerns about Dr O'Donohoe's practice, there was an equally pressing need to commission a specific investigation to address with precision the cause of Lucy's death. In my view Dr McConnell should have done more to ensure that the Trust pursued further investigation of this kind.

4.198 Mr Bradley accepted that the WHSSB should have obtained the assurance of the Trust that further investigation would be undertaken to establish the cause of Lucy's death.[335] Dr McConnell and Mr Bradley, as the clinical professionals within the Board, should have ensured that the Trust was pressed to explain how this question was going to be addressed. Professor Scally considered that Dr McConnell (and indeed the Board in general) had "*significant positional and sapiential authority*" to advocate a thorough investigation of Lucy's death.[336]

4.199 In addition, the WHSSB failed to hold the Trust to account for the procedural failings in its Review, the failure to gather relevant evidence, the failure to establish exactly what had happened and most especially the failure to identify mismanagement as a possible or probable cause of death. Furthermore, it ought to have considered whether Lucy's death raised issues of more general application. Whilst I have no doubt that Dr

332 WS-286-1 p.7
333 WS-286-2 p.5
334 251-002-007-008 & 015
335 Mr Bradley T-18-06-13 p.141, line 22
336 251-002-010

McConnell was troubled by the outcome of the Trust's Review, he failed to ensure that the Trust addressed the outstanding questions when he was in a position to do so.

4.200 The fact that the Board was not sent a copy of the second RCPCH Report[337] was an additional failing on the part of the Trust. The first RCPCH report had been shared and Dr McConnell believed that he should certainly have received the second report[338] but he had not even been informed that there was to be a second RCPCH review.[339]

4.201 Mr Mills recognised that the second RCPCH report contained new information and that the report ought properly to have been disclosed to the WHSSB.[340] He could offer no explanation for this omission and appeared to accept that there could be no excuse for this failure. As I have also noted in connection with the Trust's failure to disclose this report to the Crawford family, it is impossible to escape the conclusion that the report was withheld from the WHSSB to conceal the connection between medical mismanagement and Lucy's death. Mr Mills is to be strongly criticised for this failure.

RBHSC: Consultant responsibility for Lucy's Care

4.202 Debate surrounded the question as to who had individual responsibility for Lucy's care after she was admitted to the RBHSC. She was documented as being admitted into the consultant care of Dr Crean[341] who saw Lucy at ward round soon after admission and spoke with her parents. He arranged for review by Paediatric Neurologist Dr Hanrahan and spoke with Dr O'Donohoe in the Erne Hospital about Lucy's fluid management upon receipt of her notes.

4.203 Dr Crean told me that whilst his name appears as Lucy's consultant on the admissions record, this was an administrative formality "*to designate a*

337 Dr McConnell T- 19-06-13 p.127 line 23
338 Dr McConnell T-19-06-13 p.130 line 24
339 Dr McConnell T- 19-06-13 p.128 line 25
340 Mr Mills T- 17-06-13 p.167 line 9
341 061-001-001

direct ICU admission" from another hospital.[342] He explained that notwithstanding that Lucy was jointly managed by the anaesthetists and Dr Hanrahan in PICU, the actions of Dr Hanrahan indicated to everyone that he was the consultant with actual charge of Lucy's care.[343] He conceded nonetheless that this ought to have been formalised with an entry in Lucy's notes.[344]

4.204 Dr Hanrahan had been responsible for arranging the specialist neurological investigation and conducting the brain stem testing for death with Dr Chisakuta. Furthermore, after Lucy's death Dr Hanrahan contacted the Coroner's Office, arranged for the consent post-mortem and oversaw the certification of death. He communicated with Mr and Mrs Crawford.

4.205 For his part, Dr Hanrahan did not consider that he had been in charge. He took the view that the lead consultant was the paediatric intensive care consultant on duty at any particular time.[345] On the day of Lucy's admission that would have been Dr Crean, and on the following day Dr Chisakuta, although he admitted that he had not thought about it in that way at the time.[346] Dr Hanrahan accepted that he had provided "*quite significant input*" but considered that Lucy's care was jointly managed between himself and the "*intensivists.*"[347] He insisted that at no time had he agreed to become lead consultant with responsibility for care.[348]

4.206 I consider this issue, from the perspective of this Inquiry's terms of reference, to be something of an academic debate, though doubtless important in terms of clinical practice and hospital administration. I am told that things have changed in PICU and greater formality is now attached to the designation of patient specific lead consultants.[349]

342 Dr Crean T-04-06-13 p.48 line 14
343 Dr Crean T-04-06-13 p.52 line 18-19
344 Dr Crean T-04-06-13 p.54 line 13-15
345 Dr Hanrahan T-05-06-13 p.17 line 2
346 Dr Hanrahan T-05-06-13 p.17 line 9
347 Dr Hanrahan T-05-06-13 p.18 line 23
348 Dr Hanrahan T-05-056-13 p.19 line 1-2
349 Dr Hanrahan T-05-06-13 p.15 line 16

4.207 In the event, Lucy was cared for by a team of specialist doctors comprising paediatric intensive care consultants, namely Dr Crean, Dr Chisakuta and to a lesser extent, Dr McKaigue, together with paediatric neurologist Dr Hanrahan who was assisted by his specialist registrar, Dr C. Stewart. The two disciplines worked together at the end of Lucy's life to perform brain stem testing. After confirmation of death, I consider that it was incumbent upon these same doctors to continue to work together to try to identify the cause of death, regardless of who might properly have been regarded as lead consultant.

4.208 In the event, Dr Hanrahan took the lead in managing important matters after Lucy's death. The opportunity existed to determine the cause of death. That was not, however, the responsibility of Dr Hanrahan alone. It is clear that there was a broader responsibility on the part of the clinical team and more generally within the RBHSC to discover the cause of death and determine whether there were any lessons to be learned.

RBHSC: Suspicions

4.209 The clinicians in the RBHSC quickly recognised inadequacies in the Erne Hospital fluid management. Dr Crean made the effort to contact Dr O'Donohoe because he was concerned, on the basis of Lucy's notes, as to how her fluids had been managed. It is likely that Dr Crean was aware that a child such as Lucy, suffering from fluid loss after a short but significant bout of gastroenteritis, should have been prescribed normal saline for replacement purposes and not large volumes of Solution No. 18. Indeed, at that time his colleagues were teaching students that hypotonic solutions should only be given for maintenance purposes, and never for replacement.[350] Dr Crean said he was,

"*...unable to recollect what my view was at that time. However, I anticipate that, on looking at the Erne fluid balance chart now, I would have had specific concerns regarding the administration of boluses of hypotonic fluids to children...The administration of large volumes of hypotonic solutions may*

[350] Dr Crean T-04 -06-13 p.24 line 5

produce very low concentrations of electrolytes, in particular sodium, leading to undesirable fluid shifts...A fluid deficit would normally have been replaced with normal saline."[351]

4.210 I conclude that Dr Crean recognised, just as Dr Evans was to do, that the volume of hypotonic fluid given was wholly inappropriate and that Lucy had become hyponatraemic over a relatively short period of time. He would therefore probably have sensed that the fluid management was the cause of the hyponatraemia. It was disconcerting that Dr Crean should have given the impression during his evidence that at the time of treating Lucy he did not see very much wrong with how her fluids had been managed.[352] He explained that the use by paediatricians of a hypotonic solution (such as Solution No. 18) as a replacement therapy was "*a common fluid regimen that many of the paediatricians used at that time*" and one that he did not think he "*would have considered inappropriate for them.*"[353]

4.211 Dr Crean's evidence was inconsistent with what he knew to be the correct approach to fluid management in a case such as Lucy's, and inconsistent with his decision to make contact with Dr O'Donohoe.

4.212 Dr Crean also gave evidence that children were sometimes transferred to the RBHSC by paediatricians who were "*administering hypotonic solutions above maintenance*" and it was his practice and that of his colleagues to counsel them against the inappropriate administration of hypotonic fluids.[354] Had he no such concerns about how paediatricians were using fluids he would not have engaged in such communication nor telephoned Dr O'Donohoe.

4.213 Accordingly, I have little doubt that Dr Crean was concerned when he understood the fluid therapy as administered by the Erne Hospital. His reservations would have been confirmed after talking to Dr O'Donohoe (if Dr O'Donohoe's record of their discussion is correct) because, as he

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351 WS-292-1 p.6
352 Dr Crean T-04-06-13 p.93 line 17
353 Dr Crean T-04-06-13 p.92 line 12
354 Dr Crean T-04-06-13 p.127 line 12

acknowledged himself, the fluids seemingly intended for Lucy (a bolus of 100ml followed by Solution No. 18 at 30ml/hr) made no more sense than the fluids actually given (Solution No. 18 at 100ml/hr).[355] Nonetheless, no concern was recorded at the RBHSC about the fluid therapy.

4.214 Whilst I am satisfied that Dr Crean recognised that Lucy's fluids had been mismanaged, I do not find that he decided that this was significant in terms of her deterioration and death. He maintained that he "*would never have considered a problem with the fluids with sodium of 127 in 2000*"[356] and relied on medical literature to indicate that the majority of children developing hyponatraemic encephalopathy had sodium levels of 120mmol/L or less.[357] He emphasised that although it is now known that dilutional hyponatraemia deriving from fluid imbalance was the primary factor in causing Lucy's cerebral oedema that is not what he thought at the time.[358]

4.215 Dr MacFaul confirmed that, "*A blood sodium level at 127mmol/l was not usually regarded as causative of cerebral oedema in the year 2000 although many intensivists and some paediatric neurologists were aware that a rapid fall could make worse an acute encephalopathy whatever its cause. This was not necessarily widely known in paediatric practice.*"[359] Furthermore, Dr MacFaul observed that "*less prominence*" was given in the literature at that time to the significance of rapidity in the fall of blood sodium to the development of acute encephalopathy.[360]

4.216 It is a function of the treating clinician to assist the Coroner. It is in this respect that Dr Crean and his colleagues could have done more. Whilst I accept that dilutional hyponatraemia need not have been cited unequivocally to the Coroner as the cause of death, it is surprising that it was not advanced as a possible cause.

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355 Dr Crean T-04-06-13 p.95 line 4
356 Dr Crean T-04-06-13 p.103 line 20
357 WS-292-2 p.4-5
358 Dr Crean T-04-06-13 p.100 line 2
359 250-003-121
360 250-003-123

4.217 Fluid management was acknowledged by Dr Crean as his "*core business.*"[361] I believe that he did not think carefully enough about the part played by fluid therapy in the cause of Lucy's condition. Had he done so, I am satisfied that he would have suspected a possible connection between the fluid therapy and the fatal cerebral oedema. I am also satisfied that together with his colleagues in the RBHSC who cared for Lucy, Dr Crean did not want to be seen to be exposing to critical scrutiny, the mistakes which were made in the Erne Hospital.

RBHSC: Failure to adequately consider the evidence

4.218 It is a matter of concern that notwithstanding that Lucy's Erne Hospital records contained all the information necessary to permit the RBHSC clinicians to conclude that her sodium levels had probably dropped even lower than the 127mmol/L recorded, this does not appear to have been recognised.

4.219 Dr Crean said that despite having read Lucy's notes many times he only realised that those notes revealed this likelihood when he was actually giving evidence to the Inquiry[362] although he had previously been aware of the issue because it had been raised by Dr Sumner. He accepted that had clinicians recognised at the time that the serum sodium had probably been lower than 127mmol/L then dilutional hyponatraemia would have been identified "*as a more obvious cause of the development of cerebral oedema.*"[363] He admitted that they "*did not fully consider the timing of the blood test taken around the time of her acute deterioration*."[364]

4.220 For his part, Dr Hanrahan said that he only realised that Lucy's second blood sample was taken after the infusion of normal saline when he discussed it with Dr O'Donohoe in December 2004. It was then, he explained, that "*everything* [fell] *into place.*"[365]

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361 Dr Crean T- 04-06-13 p.26 line 14
362 Dr Crean T-04-06-13 p.115 line 23
363 WS-292-1 p.12
364 WS-292-1 p.12
365 Dr Hanrahan T- 05-06-13 p.211 line 1

4.221 I consider the failure by senior RBHSC clinicians to adequately consider Lucy's notes so as to determine the sequence of testing and treatment to be unacceptable. Notwithstanding that it has been suggested that other experts also failed to draw this particular conclusion,[366] the omission is particularly troubling because the relevant information is detailed on the very same page which recorded the excessive administration of normal saline.[367] This note ought therefore to have been the subject of particular scrutiny, especially when those treating her were struggling to understand the cause of her condition.

4.222 Dr MacFaul observed that "*in the absence of any other satisfactory explanation for Lucy's death a review by RBHSC of the fluid management in the Erne hospital was justified*"[368] and indeed this ought to have been conducted when considering referral to the Coroner.[369] He characterised the failure to seek further explanation for Lucy's death as "*a significant failing*" and whilst acknowledging that it was understandable "*in the context of the knowledge at the time*" not to appreciate the significance of the sodium level and rate of change, he insisted that a fluids review would have concluded that Lucy was "*overloaded with fluid*" and that this "*had probably been contributory or causative.*"[370]

4.223 Dr Crean told me that he did not have the time to conduct a forensic investigation of the notes.[371] I do not accept that because he could have delegated this important task to a colleague. The same criticism applies to Dr Hanrahan, who may, because of the responsibilities he assumed after Lucy's death,[372] have been even more obligated to review the fluid management. Dr Hanrahan accepted that he could have been "*more*

366 It has been suggested in submissions on Dr Hanrahan's behalf (403-031-002) that even Dr Sumner *"proceeded on the basis that 127 was the base level for sodium."* However, I take the view that this is incorrect. Dr Sumner considered Lucy's notes and found in his report for the Coroner (at 013-036-140) that *"it is possible that the serum sodium had been lower* [than 127]*, but increased during the administration of this huge volume of saline."* Regardless of whether the serum had been lower, and in my view it probably had been lower than 127 before the normal saline was administered, he believed that it was possible to explain the death on the basis of what he called a *"rapid and dramatic fall"* of sodium from 137 to 127 over the course of several hours.

367 Here, I am referring to the Erne Hospital nursing notes which had been forwarded to the Children's Hospital and which can be found at 061-017-050

368 250-003-121

369 250-003-121

370 250-003-122

371 Dr Crean T-04-06-13 p.112 line 17

372 250-003-121

rigorous in questioning the timing of the sodium analysis in the Erne"[373] and could indeed have identified the evidence suggesting a lower sodium level.[374]

RBHSC: Internal discussions

4.224 Dr Crean was not alone in recognising that Lucy's fluid therapy had not been properly managed. Dr C. Stewart recalled general agreement within the RBHSC that there had been mismanagement.[375] She said that no one thought Lucy's fluid therapy appropriate and confirmed that this was recognised "*reasonably quickly in PICU.*"[376] However, Dr C. Stewart recalled that it was relatively common at that time to see children with low sodium[377] and that the feeling amongst consultants was "*that they would have expected her sodium level to be much lower*" if it was going to cause cerebral oedema and collapse.[378] In this regard her evidence was consistent with that of Dr Crean and Dr Hanrahan.

4.225 Dr Hanrahan told me that he was quite unaware of Dr Crean's conversation with Dr O'Donohoe on the morning of Lucy's transfer to the RBHSC.[379] He said that whilst he was aware of the general view that Lucy's fluids had not been properly managed at the Erne,[380] this did not cause him any great concern in the absence of a really low sodium reading.[381] At that time he said that he was "*fairly definite in* [his] *mind that this wasn't a fluid related problem...*"[382]

4.226 By contrast Dr Chisakuta admitted to having been concerned about the part fluid management may have played in Lucy's death[383] but insisted that he was not sure about the cause of death. It was because of his uncertainty that he considered that the case ought to be reported to the Coroner. I am

373 Dr Hanrahan T-05-06-13 p.219 line 8
374 WS-289-1 p.26
375 Dr C Stewart T-29-05-13 p.177 line 6
376 Dr C Stewart T-29-05-13 p.171 line 24
377 WS-282-2 p.2
378 Dr C Stewart T-29-05-13 p.194 line 21
379 Dr Hanrahan T-05-06-13 p.44 line 23
380 Dr Hanrahan T-05-06-13 p.63 line 1
381 Dr Hanrahan T-05-06-13 p.64 line 7
382 Dr Hanrahan T-05-06-13 p.74 line 1
383 Dr Chisakuta T-29-05-13 p.67 line 18

entirely satisfied that Dr Chisakuta did consider Lucy's case in this way and do not find it surprising given the similar, if more confident conclusions reached independently by Drs Evans and Auterson.

4.227 It is disappointing therefore that Dr Chisakuta did not then raise his suspicions directly with his colleagues. He said he believed that Dr Crean had similar concerns[384] and would be "*surprised*" if Dr Crean had not expressed them but could not actually remember him doing so.[385] Whilst I am satisfied that Dr Crean had concerns about Lucy's fluid management and that it is likely that he discussed those concerns with his colleagues, I find no good evidence to suggest that Dr Crean expressed any view that the fluids were implicated in the death.

4.228 Additionally, Dr Chisakuta said that he discussed the death with Dr Hanrahan and the necessity that it be reported to the Coroner.[386] Despite this, he acknowledged that he did not share with Dr Hanrahan his concern that poor fluid management had possibly been a cause of the cerebral oedema.[387]

4.229 Dr Hanrahan for his part recognised that he "*should have talked to a lot more people in a lot more detail*" about what had happened to cause Lucy's death[388] and conceded that he "*should have investigated this more and the evidence may have been there if* [he] *had looked more carefully.*"[389] I consider this concession appropriately made because he assumed the responsibility for contacting the Coroner's Office. His obligation was to inform the Coroner as to the facts and circumstances relevant to the death. It is unclear how he could have hoped to do so effectively without some investigation and the input of those senior colleagues with knowledge of Lucy's case.

384 Dr Chisakuta T-29-05-13 p.73 line 8
385 Dr Chisakuta T-29-05-13 p.91 line 2
386 Dr Chisakuta T-29-05-13 p.64-65
387 Dr Chisakuta T-29-05-13 p.71 line 10
388 Dr Hanrahan T-05-06-13 p.64 line 19
389 Dr Hanrahan T-05-06-13 p.75 line 12

4.230 The cause of Lucy's condition ought to have been the subject of urgent internal consideration by clinicians in the RBHSC on the day of her admission. Dr Crean's discussion with Dr O'Donohoe and his realisation that the fluid regime made no sense should have been the starting point for wider discussion. Her death ought to have made this a priority. Dr Crean should have told Dr Hanrahan about his conversation with Dr O'Donohoe and the significance of the fluid management errors could have been debated allowing Dr Chisakuta to ventilate his concerns. There might then have been agreement as to what further information could be obtained from the Erne Hospital, and precisely what the Coroner, the family, the Erne Hospital and RBHSC management should be told.

4.231 No such discussion took place. Lucy's death passed without appropriate thought or inquiry at Northern Ireland's only paediatric teaching hospital. Dr C. Stewart drafted a clinical diagnosis for the autopsy request form but such conversation as may have surrounded her formulation was no substitute for informed discussion about the cause of death. That there was an absence of a thorough multi-disciplinary discussion about Lucy's death has to be regarded as unacceptable.

4.232 It is a cause for real concern that experienced clinicians did not speak with each other about their reservations in such a case or even inform their own Medical Director. It has been suggested that because the treatment happened elsewhere they felt no pressing need for informed discussion or formal reporting within their own Trust. However none of the clinicians notified the SLT or the Crawford family GP either.

RBHSC: Discharge letter

4.233 The RBHSC did not issue a conventional discharge letter to either the GP or the referring Hospital.[390] Dr MacFaul considered this omission unusual and referred to it as a "*significant deficiency.*"[391] He indicated that the

[390] Dr Chisakuta T-29 -05-13 p.117 line 22. Dr Chisakuta confirmed to me that the usual practice in 2000 was to issue a discharge letter to the patient's GP

[391] 250-003-117

discharge letter should have included some information about the patient's presentation and outlined the investigations, diagnosis and treatment.

4.234 Dr Chisakuta went further and said that in this instance it would have been appropriate to use the discharge letter to document concern about Lucy's treatment at the Erne.[392] Such would have enabled the GP to explain the position to Lucy's parents, support them in their bereavement and articulate matters of concern. Additionally, the discharge letter would have formally advised the SLT that there were concerns about the adequacy of Lucy's treatment.[393]

4.235 Dr Crean believed that it was essential to issue a discharge letter.[394] He thought that an 'inpatient/outpatient advice note' had been sent by the RBHSC to Lucy's GP, although the evidence I received on this was very far from conclusive. In any event the advice note merely informed that the primary diagnosis was cerebral oedema with underlying viral gastroenteritis[395] which Dr Crean accepted didn't "*give the whole story*."[396]

4.236 Dr Hanrahan confirmed that "*the responsible clinician*" usually wrote the discharge letter[397] and would normally try to telephone the deceased patient's GP.[398] Whilst he accepted that he ought to have telephoned the GP he suggested that the task could equally have been performed by one of the intensive care practitioners and may perhaps have fallen "*between two stools.*"[399]

4.237 I consider that because Dr Hanrahan had been directly involved with Lucy's care at the end of her life, took the lead role in contacting the Coroner's Office, arranged the hospital post-mortem and oversaw the completion of the death certificate, he should also have telephoned the GP and assumed responsibility for drafting a suitably detailed discharge letter for the Erne

392 Dr Chisakuta T-29-05-13 p.118 line 3
393 251-002-017
394 Dr Crean T-04-06-13 p.143 line 8
395 061-012-036
396 Dr Crean T-04-06-13, p.142 line 8
397 WS-289-2 p.6
398 Dr Hanrahan T-05-06-13 p.164 line 8
399 Dr Hanrahan T-05-06-13 p.164 line 9

Hospital and the GP. Alternatively, he could even have delegated this task to a suitably informed and qualified colleague.

4.238 The discharge letter was a critical communication and responsibility for the task ought to have been clear. That this routine task was not carried out is consistent with the other obvious failures by clinicians within the RBHSC to document, discuss and communicate their concern about how Lucy had been treated in the Erne Hospital. I cannot avoid the conclusion that the individual failures within the RBHSC to communicate that concern, cumulatively form a pattern of behaviour indicating reluctance to draw critical attention to the failures of other professional colleagues.

RBHSC: Failure to raise concerns directly with the Erne Hospital

4.239 The failure of clinicians at the RBHSC to communicate concerns about Lucy's treatment to Lucy's family doctor was matched by their failure to advise the Erne Hospital or the SLT. Dr Ian Carson,[400] then Medical Director of the Royal Group of Hospitals Trust ('RGHT'), explained that he "*would have expected a consultant who had a patient referred to them to have had a continuing and an open communication with the referring consultant.*"[401] He deemed this both a professional and an organisational expectation and thought it should have been relatively easy for the RBHSC to talk to the Erne about errors in the management of Lucy because it was not a case that had been badly managed in the RBHSC.[402]

4.240 Additionally, he considered that the RBHSC consultant in charge of Lucy's care should have advised him of any concerns. It would then have been appropriate for him (or the Chief Executive of the Trust) to write to the SLT to relay those concerns. He acknowledged that this "*probably should have been done.*"[403]

4.241 Professor Scally also expressed the view that if staff at the RBHSC had any "*significant suspicion*" that "*Lucy's death was due to inadequate treatment*"

400 325-002-009
401 Dr Carson T-26 -06-13 p.27 line 13
402 Dr Carson T-26 -06-13 p.32 line 5
403 Dr Carson T-26 -06-13 p.30 line 17

then there was an obligation to make a formal report to the SLT. He went on to explain "*that this expectation 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.*"[404]

4.242 The evidence revealed that after Lucy was transferred from the Erne to the RBHSC there were in all five communications between the two hospitals.[405] Significantly, in none of these interactions was the Erne asked to explain what had happened to Lucy or to justify its management of the case, and still less was it placed on formal notice of the concerns of medical mismanagement.

4.243 Dr Crean's informal telephone contact with Dr O'Donohoe may nonetheless have caused him to draw Lucy's case to the attention of Dr Kelly in order to prompt the Review at the Erne. However, I do not consider that Dr Crean's conversation with Dr O'Donohoe satisfied the RBHSC obligation to formally report concerns in respect of the mismanagement of Lucy's care. Dr Crean accepted that if the RBHSC was not going to investigate Lucy's treatment because the problem had not been caused there, he should have satisfied himself that it was going to be properly investigated at the Erne.[406]

4.244 Asked why neither he or his colleagues informed the Erne Hospital that there were problems with Lucy's care Dr Chisakuta said, "*I have no response to that*"[407] which was at least an honest recognition that there was no good explanation for the failure. Both Dr McKaigue[408] and Dr Hanrahan[409] agreed that it should have been done. Dr Hanrahan went further and accepted that the matter should have been reported even if there was no consensus and even where there was no concern that the

404 251-002-017

405 Dr Auterson contacted PICU on the 13 April relaying the results of the repeat blood tests, Dr Crean telephoned Dr O'Donohoe seeking clarification of the fluid regime, Dr Hanrahan telephoned Dr O'Donohoe advising that the Coroner had been informed and that a hospital post-mortem would be carried out with the consent of Mr and Mrs Crawford, an unidentified RBHSC clinician contacted the Erne Hospital on the 18th April 2000 to provide a verbal report in respect of the post-mortem and Dr Hanrahan telephoned Dr O'Donohoe again on 14th June 2000 to ask him to meet with Lucy's parents again.

406 Dr Crean T-04-06-13 p.150 line 6

407 Dr Chisakuta T-29-05-13 p.116 line 9

408 Dr McKaigue T-30-05-13 p.130-131

409 Dr Hanrahan T-05-06-13 p.231-232

treatment had affected the outcome.[410] However, he said that he did not then know of the mechanism for making a report to a referring hospital.[411] This admission reveals a surprising lack of knowledge on the part of an experienced, senior clinician.

4.245 Dr Crean acknowledged that when mistakes were made there was a tendency amongst clinicians to think that "*if I put my head above the parapet and say about this, they'll shoot me for it.*"[412] Nonetheless, Dr Crean denied that the silence of clinicians in the RBHSC amounted to a 'cover-up' and pointed to the fact that he had reported the circumstances of Raychel's death to the Coroner the following year.[413] Whilst Dr Crean acted properly in respect of Raychel's death, I consider that his failure and that of his colleagues to challenge the Erne about Lucy's treatment was intentional so as not to draw wider attention to the clinical shortcomings in her treatment.

4.246 Dr Crean said that the RBHSC had no idea that the Erne Hospital was conducting a review. He explained that the "*crossover of information*" simply wasn't there.[414] That neither hospital communicated with the other, only confirms for me that both hospitals were anxious to avoid scrutiny of the events which led to Lucy's death, and had limited interest in gaining a full understanding of those events.

4.247 I consider that both the failure of the Erne Hospital and the RBHSC to communicate formally about Lucy's case and the subsequent failure of the Erne to involve the RBHSC in its review, contributed to the overall failure to learn from her case and this may not have been without serious consequence.

RBHSC: Adverse Incident Reporting

4.248 No adverse incident report was made of Lucy's death within the RBHSC or the RGHT. There was no formal requirement to do so at the time.

410 Dr Hanrahan T-05-06-13 p.232 line 3
411 Dr Hanrahan T-05-06-13 p.233 line 9
412 Dr Crean T-04-06-13 p.150 line 10
413 Dr Crean T-04-06-13 p.124 line 17
414 Dr Crean T-04-06-13 p.148 line 2

Notwithstanding, Dr Carson advised that in the event of a "*death or where a doctor's practice is called into question or patients are put at risk, those are cases that quite definitely should have been referred to the Trust Medical Director*"[415] and the Clinical Director of Paediatrics.[416]

4.249 A month after Lucy's death the RGHT published its first adverse clinical incident reporting policy. Accordingly, and notwithstanding Dr Carson's expectation of an informal notification, there can be no criticism of RBHSC clinicians for failing to make a policy compliant adverse incident report. Indeed, Dr MacFaul's considered that the absence of an adverse incident report at the RBHSC "*was not unreasonable by the standards of the day.*"[417]

4.250 Dr Crean suggested that even if the adverse incident reporting scheme had been operational at the time of Lucy's death, it is unlikely that he would have made a report. He said that although he regarded the death as "*unexpected*" he did not then make the connection with the medical treatment given[418] and even if he had recognised that the medical treatment had caused or contributed to the death, the fact that she was treated in the Erne Hospital would not have prompted a report under the procedures.[419] Dr Chisakuta agreed.[420]

4.251 However, this was a death which was unexpected, and the cause of it was unknown. It was also a death which took place in circumstances where it was known that fluid therapy had been mismanaged. In failing to report such a death to their own medical or clinical directors the RBHSC clinicians repeated the pattern of non-reporting which so marked the RBHSC response to the deaths of Adam Strain and Claire Roberts. It had the effect of distancing those in positions of governance from suspicions of medical mismanagement and reducing the likelihood of a formalised response. This

415 Dr Carson T-16-01-13 p.66 line 12
416 Dr Carson T-16-01-13 p.67 line 11
417 250-003-007
418 Dr Crean T-04 -06-13 p.146 line 15
419 Dr Crean T-04 -06-13 p.147 line 2
420 WS-283-2 p.3

approach cannot have been accidental and had the consequence that there was a failure to adequately investigate and learn from Lucy's death.

Reporting the death to the Coroner's Office

4.252 The legal duty to report a death to the Coroner is imposed by section 7 of the Coroners Act (Northern Ireland) Act 1959[421] and requires "*every medical practitioner*" who "*has reason to believe*" that a person has died "*directly or indirectly*" from "*negligence*" or "*from any cause other than natural illness or disease*…" or in "*such circumstances as may require investigation*" to notify the Coroner "*of the facts and circumstances of the death*."

4.253 Accordingly, the Erne clinicians were not absolved of responsibility to report Lucy's death just because the death occurred in the RBHSC. Nonetheless the normal practice in Northern Ireland was for a clinician at the hospital where a patient has died, to report the death to the Coroner.

4.254 The duty to report is a continuing one. Therefore, if at any stage after death a medical practitioner receives information giving rise to a 'reason to believe' then there is an obligation to notify the Coroner. Failure to make such a report is a criminal offence.

4.255 I should add that contact with the Coroner's Office need not necessarily be pursuant to the duty under the Coroners Act; contact could be made with the Coroner's Office in order to clarify whether a section 7 duty arises on the facts of any given case.[422]

4.256 Not only was there reason to believe that Lucy may have died as a result of negligence but there was also reason to believe that she may have died from a cause other than a natural illness or disease and in any event her death occurred in circumstances which clearly required investigation. It does not require the benefit of hindsight to conclude that it is obvious that

421 http://www.legislation.gov.uk/apni/1959/15/contents

422 I am referring here to the helpful submission made by Mr Nick Hanna QC on behalf of the Coroner: T-25-06-13 p.152-155

Lucy's death should have been formally reported to the Coroner pursuant to section 7.

4.257 Before Lucy died Dr Hanrahan had noted that "*if she succumb*[s], *a PM would be desirable – Coroner will have to be informed.*"[423] He explained that this was because, "*we didn't know what was going on*"[424] and because "*Lucy had died within a short time of admission to hospital.*"[425] However, he said that in the event he contacted the Coroner's Office with an "*open mind*" in order to discuss whether formal reporting of the death was necessary.[426]

4.258 The evidence strongly suggests to me that when Dr Hanrahan contacted the Coroner's Office he did not do so in the belief that the circumstances of Lucy's death required him to make a formal report to the Coroner. Dr Hanrahan did not seemingly appreciate that a death in unusual and unexplained circumstances placed him under a duty to formally notify the Coroner. He was unfamiliar with his duty and had received no training in respect of his obligations.[427]

4.259 When Dr Hanrahan telephoned the Coroner's Office he was unable to speak to the Coroner but talked instead with Mrs Maureen Dennison[428] who was a member of the Coroner's staff. In respect of the information supplied by Dr Hanrahan she recorded, "*Died 14.4.00 at RVH Childrens ICU. Gastro interitis (sic), dehydrated, brain swelling. Admitted Erin* (sic) *Hospital (2 days ago – transferred to RVH. Spoke to Dr Curtis.*" The entry also noted "*D.C.*" (Death Certificate).[429]

4.260 When questioned, Mrs Dennison thought that in all probability Dr Hanrahan was making a formal report pursuant to section 7 and not merely seeking guidance about whether it was necessary to make a report.[430]

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423 061-018-066
424 Dr Hanrahan T-05-06-13 p.89 line 17
425 WS-289-1 p.10
426 Dr Hanrahan T-05-06-13 p.101
427 Dr Hanrahan T- 05-06-13 p.98-99
428 325-002-007
429 013-053a-290
430 Mrs Dennison T-24-06-13 p.51

4.261 H.M. Coroner, Mr John Leckey, explained that it was the practice in his office that where there was doubt about whether a death should be dealt with by issuing an immediate death certificate or by Coroner's post-mortem then "*the advice of a pathologist in the State Pathologist's Department would be sought.*"[431] In such circumstances clarification "*could be provided by the reporting Medical Practitioner speaking direct to one of the pathologists or the pathologist making contact with the reporting Medical Practitioner*."[432] The Coroner's Office would then normally be advised as to the outcome of such discussions.

4.262 It was entirely proper that at that time the Coroner should have had an administrative procedure in place for dealing with enquiries from the medical profession. Most such enquiries are likely to have been straightforward and need not have troubled the Coroner directly. However, Dr Hanrahan's contact with the Coroner's Office would undoubtedly have benefitted from the Coroner's own direct involvement. I have no doubt that had the Coroner been spoken to by Dr Hanrahan he would have decided to investigate the death.

4.263 In the event, Mrs Dennison could not remember what efforts she made to contact the Coroner[433] and instead spoke to Dr Michael Curtis[434] (Assistant State Pathologist) "*to get advice about this death.*"[435] She could not however, recall any direct contact between Dr Hanrahan and Dr Curtis.

4.264 The record made by Mrs Dennison supports her presumption that she contacted Dr Curtis and that he advised that a death certificate could be issued.[436] She believed that she would then have returned to Dr Hanrahan and relayed what Dr Curtis had said.[437] She could not remember ever

431 WS-277-1 p.3
432 WS-277-2 p.4
433 WS 276-1 Page 4
434 325-002-007
435 WS-276-1 p.4
436 WS-276-1 p.4
437 WS-276-1 p.5

having put a clinician directly in touch with a pathologist in such circumstances.[438]

4.265 Dr Curtis said that as Assistant State Pathologist he was "*infrequently*" called upon by the Coroner's Office to provide informal medical advice in relation to the cause of a death. However, he could not recall Dr Hanrahan or any conversation with him.[439] Furthermore, he could not recall ever having spoken to a reporting clinician in this type of situation.[440] In these important respects his evidence was consistent with that of Mrs Dennison.

4.266 The communication with the Coroner's Office was entered in Lucy's notes by Dr C. Stewart: "*Coroner (Dr Curtis on behalf of coroners) contacted by Dr. Hanrahan – case discussed, coroners PM is <u>not</u> required, but hospital PM would be useful to establish cause of death + rule out another* Δ[441] *Parents' consent for PM* ✓*.*"[442]

4.267 This note could suggest that Dr Hanrahan discussed the case with Dr Curtis acting on behalf of the Coroner. Dr C. Stewart said she probably made the entry on the basis of what Dr Hanrahan told her.[443] Dr Hanrahan could not recall his conversation with the Coroner's Office[444] but thought, on an interpretation of Dr Stewart's note, that he must have discussed the death directly with Dr Curtis.[445]

4.268 I think it unlikely that Dr Hanrahan spoke directly to Dr Curtis. Both Dr Curtis and Mrs Dennison indicated it would have been unusual if the clinician and pathologist had been put in contact with each other through the Coroner's Office and Mrs Dennison's contemporaneous note strongly suggests it was she who spoke to Dr Curtis.

4.269 I am satisfied that Mrs Dennison did her conscientious best to convey to Dr Curtis the information Dr Hanrahan supplied to her and it is to be noted that

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438 Mrs Dennison T-24-06-13 p.73 line 24
439 WS-275-1 p.5
440 Dr Curtis T-25 -06-13 p.6-7
441 Signifying Diagnosis.
442 061-018-067
443 Dr C Stewart T-29-05-13 p. 178 line 13
444 Dr Hanrahan T-05 -06-13 p.100 line 7
445 115-050-004

Dr Hanrahan did not even inform her about the known hyponatraemia which had been caused by clinical error. Whilst he accepted that this was a "*very important omission*"[446] he sought to assure me that it was not deliberate. Taking into account the general failure to document let alone report the mismanagement of Lucy's care despite the several opportunities available to him, I have struggled to find any good explanation for Dr Hanrahan's omissions. Not surprisingly, Dr MacFaul was of the opinion that the hyponatraemia should have been reported.[447]

4.270 Furthermore, Dr Hanrahan did not convey his uncertainty as to the cause of death. Had he done so, it is probable that Mrs Dennison would have told Dr Curtis and he in turn would have advised referral to the Coroner. Dr Hanrahan accepted responsibility for a "*hopelessly incomplete report on Lucy's death*."[448] He now recognises that the three conditions reported by him do not make sense as a cause of death and that he should have recognised that at the time.

4.271 Dr Hanrahan's interaction with the Coroner's Office was considered by the GMC who concluded that there was no evidence that he acted in bad faith or intentionally withheld information from the Coroner or Lucy Crawford's parents as part of a deliberate cover-up. I agree that there is no clear evidence of bad faith on Dr Hanrahan's part and I am persuaded that Dr Hanrahan's decision to contact the Coroner's Office at all indicates that he was not seeking to avoid coronial scrutiny of Lucy's death altogether. However, having provided an incomplete account of the circumstances relevant to Lucy's death to the Coroner's Office, he must bear primary responsibility for the failure to subject the causes of Lucy's death to appropriate scrutiny.

4.272 I am unable to determine from the evidence the actual advice provided by Dr Curtis excepting only that he probably advised that there was no impediment to issuing a death certificate. I am concerned, however, that

446 Dr Hanrahan T-05-06-13 p.103 line 3
447 250-003-139
448 Dr Hanrahan T-05-06-13 p.106 line 14

Dr Curtis should have so advised without obtaining a better understanding of how the death had come about. Dr Curtis had limited expertise in paediatric cases and almost none in fluid management.[449] He conceded that he would not have suspected fluid mismanagement in a cerebral oedema case unless he was specifically directed to it[450] but maintained that had he been informed of hyponatraemia in the context of dehydration, he would have found that unusual and would have known to refer it to the Coroner.

4.273 Whilst I accept that Dr Curtis was doing his best to assist the Coroner's office and sought to advise appropriately, his approach was deficient. He should have insisted upon an explanation of the medical causes for death. Without a credible explanation it was inappropriate for him to advise that a death certificate could issue. Professor Lucas suggested that in the circumstances he should have inquired further into the causation of the brain oedema because whilst gastroenteritis can cause dehydration it cannot by itself lead to brain oedema.[451]

4.274 In defence of his position, Dr Curtis emphasised that he did not appreciate that such reliance was being placed on his advices by the Coroner's Office.[452] Indeed, the situation should not have been allowed to arise since Dr Curtis and Mrs Dennison were not legally trained and therefore unqualified to advise Dr Hanrahan. It was not their responsibility to interrogate the information received in the context of the section 7 obligation.

4.275 Ultimately, Dr Hanrahan's interaction with the Coroner's Office resulted in him arranging for a consented post-mortem in order to clarify the cause of death, and a decision to issue a death certificate. It is a matter of concern that these actions took place without legal consideration or input from the Coroner. Whilst recognising that Dr Hanrahan did not provide Dr Curtis with a sufficient account of the circumstances relevant to Lucy's death, it

449 Dr Curtis T-25-06-13 p.7-8
450 Dr Curtis T-25-06-13 p.11 line 6-9
451 252-003-009
452 Dr Curtis T-25-06-13 p.15-18

must nonetheless be observed that a lack of adequate procedure in the Coroner's Office was a vulnerability in the system which allowed the case to escape the Coroner's jurisdiction at that important point in time.[453]

Subsequent Coronial involvement

4.276 Soon after Lucy's death, Mr Stanley Millar,[454] Chief Officer of the Western Health and Social Services Council, was asked by the Crawford family to advise and help them. On the basis of what he was able to learn, he became concerned about the death and enquired about an inquest but was told that an inquest was unnecessary.

4.277 Subsequently, when he became aware of the fluid management issues which led to the death of Raychel Ferguson, he wrote on 27th February 2003 to inform the Coroner Mr Leckey that, "*Lucy was taken ill on 12 April 2000 and was admitted by her GP into Erne Hospital Enniskillen with relatively minor condition of vomiting. A drip was set up and the family was assured Lucy would be home next morning. During the early hours of 13 April 2000 Lucy fitted and collapsed. She was transferred to the Royal Belfast Hospital for Sick Children on a life support system. On 14 April 2000 the life support was switched off. A post mortem was undertaken and a 'swollen brain with generalised oedema' was discovered.*"[455]

4.278 Mr Millar also emphasised to the Coroner that Lucy's death was unexplained and asked whether an inquest into her death in 2000/01 might have generated recommendations which could have saved Raychel's life. It was this communication which finally notified the Coroner of Lucy's death and prompted the investigation which was to lead to her belated inquest.

4.279 There was little in what Mr Millar communicated to the Coroner in 2003 which could not have been communicated to him by Dr Hanrahan and his colleagues at the time of Lucy's death in 2000. That Mr Millar had no

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453 The Coroner's Office now employs a full-time medical officer and no longer relies upon informal assistance from the State Pathologist's Office.

454 325-002-011

455 013-056-320

medical training only serves to emphasise the failings of the medical profession in this regard.

RBHSC: Hospital Post-Mortem

4.280 Dr Hanrahan obtained the consent of Mr and Mrs Crawford to the hospital post-mortem.[456] Dr C. Stewart noted that a hospital post-mortem would "*be useful to establish cause of death*"[457] confirming that these doctors were unaware that their inability to establish the cause of death was the very reason why they should not have been pursuing the hospital post-mortem.

4.281 Professor Lucas was clear that if a doctor is properly able to request a consented post-mortem then he must be able to write the death certificate: "*Consented autopsies only take place where the cause of death is natural and satisfactory for registration i.e. a coroner has not taken the case on under his jurisdiction.*"[458] Dr Crean did not know that this was happening and was surprised that Lucy's death did not become a Coroner's case. Quite properly, he understood that unexplained deaths should inevitably lead to Coroner's post-mortems.[459] He advised that when he finds himself unable to write a death certificate, he knows that a Coroner's post-mortem is necessary.[460]

4.282 The post-mortem was conducted by Dr Denis O'Hara[461] who was an experienced consultant paediatric pathologist. He was briefed with the autopsy request form[462] which appeared both reasonably detailed and accurate. It described Lucy's short history of vomiting and diarrhoea, referred to the IV fluids and noted the seizure with fixed and dilated pupils. The clinical diagnosis given was "*dehydration + hyponatraemia cerebral oedema-> acute coning and brain stem death.*"

456 013-031-114
457 061-018-067
458 252-003-010
459 Dr Crean T-04-06-13 p.136 line 15
460 Dr Crean T-04-06-13 p.131 line 23
461 325-002-006
462 061-022-073

4.283 Dr C. Stewart was responsible for formulating this clinical diagnosis.[463] Whilst she made reference to the condition of hyponatraemia, she insisted that she had not thought that Lucy had suffered dilutional hyponatraemia.[464] She explained that the clinical diagnosis defined the clinical problems and did not explain what had caused them.[465] Importantly, Dr O'Hara was not informed that there was any concern in relation to the management of Lucy's fluids.

4.284 Dr Hanrahan considered that it was Dr C. Stewart's responsibility (as the practitioner to whom he had delegated completion of the autopsy request form) to ensure that Dr O'Hara had all relevant materials. At the time of giving her evidence, Dr C. Stewart was unsure of the procedures which had been in place.[466] I find that as the senior clinician, it was Dr Hanrahan's responsibility to ensure that Dr O'Hara received every assistance. Dr Hanrahan reasoned that if the pathologist felt that he required further information he could have asked for it.[467] That was very far from adequate.

4.285 Professor Lucas explained that in his experience the usual practice involved the relevant clinicians attending the mortuary to view some or all of the post-mortem and discussing the findings with the pathologist. He added, "*It is at [the] CPC [clinico-pathological correlation] 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 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.*"[468]

4.286 The necessity for clinico-pathological discussion was clear in Lucy's case and a matter of common sense. I consider that it was a basic professional obligation to convene such a meeting but Dr Hanrahan said that it simply

463 Known as the working pathogenesis
464 WS-282-2 p.3
465 WS-282-2 p.4
466 Dr C Stewart T-29 -05-13 p.186 line 12
467 Dr Hanrahan T-05 -06-13 p.145 line 18
468 252-003-012

didn't occur to him. Clinicians were invited to attend with the pathologist for a review on the day of the post-mortem but Dr O'Hara was informed that no one would be in attendance.[469]

4.287 It is difficult to avoid the conclusion that as well as failing to disclose to Dr O'Hara the known deficiencies in Lucy's care, the RBHSC clinicians who cared for Lucy were not motivated to engage with him to discover what had happened to her. Dr Hanrahan said that it was unlikely that he even read the post-mortem report[470] and certainly could not remember doing so.[471] Dr Chisakuta conceded that although he had cared for Lucy and was concerned that there may have been failures at the Erne Hospital, he did not seek to read the final post-mortem report. He admitted that such an omission was embarrassing.[472] There is no evidence to suggest that Dr O'Hara's findings were given any clinical consideration. This does not reflect well on any of the clinicians involved.

Dr O'Hara's post-mortem findings

4.288 The post-mortem report dated 13th June 2000 is inconclusive.[473] Dr O'Hara was unable to explain the cerebral oedema but concluded that the presence of a "*pneumonic lesion within the lungs* [has] *been important as the ultimate cause of death.*"[474] He commented that bronchopneumonia was "*well developed and well established*" and speculated that it might have been present prior to the original disease presentation. He did not know, because he had not been told, that Lucy's chest had been x-rayed at the Erne Hospital and was clear.[475]

4.289 Whilst any criticism of the late Dr O'Hara must be tempered by the fact that he can no longer explain his approach and conclusions, Professor Lucas advised that it was likely that the pneumonia was acquired in consequence of ventilator support in intensive care. He considered that Dr O'Hara's

469 061-022-075
470 WS-289-2 p.3
471 Dr Hanrahan T-05-06-13 p.200 line 13
472 Dr Chisakuta T-29-05-13 p.106 line 9
473 061-009-016
474 061-009-017
475 027-010-023

"*most important act*" should have been to examine the laboratory records, note the chronology of abnormal electrolytes and correlate that with what had happened clinically. He believed that Dr O'Hara had attached too much significance to the presence of pneumonia and had not sufficiently thought the case through.[476]

4.290 Mr Leckey became concerned when he read Dr O'Hara's post-mortem report in 2003. He noted that whilst Dr O'Hara found the ultimate cause of death to be an oedema of the brain, he had obviously failed to establish the cause of that oedema.[477] This was therefore a death which required investigation and as an experienced pathologist Dr O'Hara ought to have known to notify the Coroner himself.[478] Had he done so, Mr Leckey would have inevitably directed his own post-mortem.

4.291 Dr O'Hara responded to the Coroner's concern by providing a supplementary report indicating "*two potential pathological processes that could impinge upon the brain*" namely hyponatraemia and bronchopneumonia and concluding that it was difficult to know "*what proportion of the cerebral oedema can be described to each of these processes.*"[479] Such analysis merely emphasises the inadequacy of his first report which failed to consider the significance of the known presence of hyponatraemia. Responsibility for that does not, however, rest solely with Dr O'Hara. He did not receive the assistance he had every right to expect from the clinical team led by Dr Hanrahan which had neglected to brief him with basic materials and thereafter failed to engage with him in the search for answers.

4.292 Dr Hanrahan, having initiated the post-mortem process on the basis that he "*didn't have a clue*" why Lucy had died,[480] now accepts that when the post-mortem did not identify the cause of her death he then ought to have referred the matter back to the Coroner's office.[481] He failed so to do. The

476 252-003-004
477 Mr Leckey T-25-06-13 p.184-185
478 Mr Leckey T-25-06-13 p.185 line 6
479 013-017-065
480 Dr Hanrahan T-05 -06-13 p.152-153
481 Dr Hanrahan T-05 -06-13 p.196 line 15. This was likewise the conclusion of the General Medical Council.

GMC, when it examined this issue, counselled Dr Hanrahan to ensure that the Coroner is informed of the conclusions reached by any hospital post-mortem if such circumstances arose in the future.[482]

RBHSC: Completion of the Death Certificate

4.293 Before the final post-mortem report became available, Dr O'Donoghue issued a medical certificate of cause of death on the 4th May 2000 certifying that Lucy's death was due to:

"*I (a). Cerebral oedema*

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

(c). due to (or as a consequence of) gastroenteritis."[483]

4.294 That the certificate was issued when there was continuing uncertainty about the cause of death is another matter of real concern.

4.295 Dr O'Donoghue was marginally involved in Lucy's care before her death, in that he administered a hormone to her.[484] For that reason he considered himself legally competent to sign the death certificate. Even if it might be said that he was legally competent to perform this role, Dr O'Donoghue certainly had no independent knowledge or understanding of the cause of the fatal cerebral oedema. I am satisfied, given the legal significance of the process, that a certificate should not be signed by a doctor who has no independent understanding of the causes of death.

4.296 Dr O'Donoghue said that he spoke to Dr C. Stewart[485] and possibly to an intensivist in PICU[486] before issuing the death certificate. He considered Lucy's hospital notes and the anatomical summary prepared by Dr O'Hara[487] but did not read the autopsy request form which made reference to the hyponatraemia.[488] He then "*presented the available information*" to

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482 403-029-005
483 013-008-022
484 Dr O'Donoghue T-31-05-13 p.44 line 23
485 Dr O'Donoghue T-31-05-13 p.32 line 13 (See also the entry in Lucy's notes at 061-018-068)
486 Dr O'Donoghue T-31-05-13 p.40 line 6
487 Dr O'Donoghue T-31-05-13 p.31 line 14
488 Dr O'Donoghue T-31-05-13 p.34 line 9

Dr Hanrahan who advised him as to the causes of death.[489] Dr O'Donoghue then entered into Lucy's notes those causes as advised by Dr Hanrahan and transcribed them on to the death certificate.[490]

4.297 It is inconceivable that Dr O'Donoghue would have completed the death certificate without the involvement of his more senior colleagues.[491] I consider that in reality the certificate was formulated by Dr Hanrahan. In reality, he had ownership of that certificate even if he did not sign it.

4.298 The formulation of the cause of death appearing on the death certificate has been recognised as a nonsense. The cerebral oedema causing Lucy's death was not due to dehydration. Both Dr MacFaul and Professor Lucas characterised the formulation as "*illogical*" because cerebral oedema cannot arise in consequence of dehydration.[492]

4.299 That was the consensus view. Dr Crean recalled that in 2003 when he first read the certificate, "*it didn't make any sense*"[493] and Dr Taylor agreed that it was "*not a correct cause of death.*"[494] Dr Chisakuta also accepted that Lucy did not die as a result of dehydration[495] and observed that the death certificate could only begin to make sense if it explained that it was the treatment for dehydration which had given rise to the cerebral oedema.[496]

4.300 Only Dr McKaigue really sought to defend the content of the death certificate. He claimed that dehydration was a cause of the death, albeit indirectly, and suggested that there was, in any event, insufficient space on the death certificate for the certifying doctor to refer to the fluid mismanagement. I consider such arguments to be wholly without merit and think it telling, in the circumstances, that Dr McKaigue should have sought to defend the indefensible.

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489 Dr O'Donoghue T-31-05-13 p.57 line 15
490 Dr O'Donoghue T-31-05-13 p.60 line 20 (See also the entry in Lucy's notes at 061-018-068)
491 Dr O'Donoghue T-31-05-13 p.32 line 19
492 252-003-011 & 250-003-007
493 Dr Crean T-04-06-13 p.131 line 20
494 Dr Taylor T-04-06-13 p.214 line 20
495 Dr Chisakuta T-29-05-13 p.113 line 4
496 Dr Chisakuta T-29-05-13 p.112 line 17

4.301 Dr O'Donoghue explained that he allowed himself to certify an illogical cause of death because he acted under the direction of Dr Hanrahan who identified causes which he recognised as appearing in Lucy's notes.[497] Dr O'Donoghue accepted that, "*…it is likely, if I had scrutinised it in greater detail… that it would have become apparent that that does not make physiological sense.*"[498] Dr O'Donoghue's duty as a doctor was to take reasonable steps to verify the cause of death before he signed the certificate.[499] He should have given his task more consideration and challenged Dr Hanrahan's thinking, awkward though it may have been to ask questions of a senior colleague.

4.302 However, Dr O'Donoghue considered that because Dr Hanrahan was in charge of Lucy's care, it was Dr Hanrahan who bore the responsibility to ensure that her death was properly certified.[500] I consider that Dr O'Donoghue is correct in this analysis. It is to be recognised in this context that Dr Hanrahan authorised Dr O'Donoghue to issue the certificate before the cause of death was known, before Dr O'Hara produced his final post-mortem report[501] and when the death certificate should not have been issued.[502]

4.303 Dr Hanrahan conceded that he handled the death certificate "*extremely badly.*"[503] He admitted that the content of the certificate was "*illogical and unhelpful*"[504] and "*did not reflect the true chain of events in Lucy's death.*"[505] He accepted that the presence of "*cerebral oedema was not due to dehydration, but rather to excessive rehydration leading to hyponatraemia.*"[506] Dr Hanrahan said that he allowed the certificate to

497 Dr O'Donoghue T-31-05-13 p.74 line 20
498 Dr O'Donoghue T-31-05-13 p.75 line 15
499 315-002-019 - General Medical Council – Good Medical Practice (1998)
500 Dr O'Donoghue T-31-05-13 p.43 line 16
501 061-009-017
502 Dr Hanrahan T-05 -06-13 p.157 line 21
503 Dr Hanrahan T-05 -06-13 p.156 line 17
504 Dr Hanrahan T-05 -06-13 p.157 line 3
505 WS-289-1 p.26
506 WS-289-1 p.20

issue because he "*was over-focussed on being kind to the parents*" who could not make their funeral arrangements without the death certificate.[507]

4.304 I am concerned that not only was the certificate issued in the absence of clarity around the cause of death, but that it was issued with an incorrect cause of death. I am satisfied that Dr Hanrahan knowingly permitted an inaccurate description of the cause of death to appear on the death certificate. That this happened is a matter for the gravest concern and cannot be excused by what I accept was his genuine sympathy for the family or a desire to help them expedite the funeral arrangements.

4.305 In its consideration of this issue, the GMC concluded that the entry on the death certificate was "*consistent with the findings of the preliminary post-mortem report*" and that therefore "*Dr Hanrahan cannot be regarded as having misled the Coroner in this regard.*"[508] I reject this analysis. A death certificate should not have been written on the basis of a preliminary post-mortem report, and still less should the cause of death have been certified as it was. As I have indicated, the hospital post-mortem process did not identify the cause of Lucy's death and therefore her case should have been reported back to the Coroner. The effect of the certification was to mislead the Coroner.

4.306 Dr Hanrahan now recognises that his conduct in this respect was indefensible. Not only did it have the effect of concealing the true cause of Lucy's death but it also prevented, at that point in time, the further investigation of the death through the Coroner's Office which was so obviously required. Accordingly, the clinical mismanagement which caused the cerebral oedema remained hidden until Mr Millar's helpful intervention three years later.

RBHSC: Communication with Lucy's parents

4.307 Dr Hanrahan had indicated to Mr and Mrs Crawford, even before Lucy had died, that they would have to go back to the Erne and to Dr O'Donohoe to

507 Dr Hanrahan T-05 -06-13 p.156 line 19
508 403-029-005

find out what had happened.[509] Dr Chisakuta indicated that had it been his duty to speak to Mr and Mrs Crawford he would have told them that her fluid management at the Erne Hospital may not have been appropriate and that there was a concern that this may have contributed to the development of cerebral oedema.[510] It is not thought that Dr Hanrahan told them about any particular concern.

4.308 Dr Hanrahan met again with Mr and Mrs Crawford on the 9th June 2000.[511] It is commendable that he initiated a meeting and it would appear that he was genuinely concerned for them. He made a short note after the meeting to record that he had gone "*over the events around Lucy's death and encouraged them to re-attend with Dr O'Donoghue (sic) to clarify events in the Erne...*"[512] Importantly, whilst this does not record discussion about fluid mismanagement, it does indicate that Dr Hanrahan tried to help Mr and Mrs Crawford obtain a fuller account of what had happened. After the meeting he contacted Dr O'Donohoe and secured his agreement to see them again. It was not his fault that Dr O'Donohoe did not honour that agreement.

4.309 Dr Hanrahan was conscious at that time that whatever had gone wrong had happened at the Erne.[513] Doubtless it was for that reason that he considered that Dr O'Donohoe should be involved in providing an explanation.[514] In June 2000 Dr Hanrahan knew more than enough about Lucy's treatment to be concerned about it.[515] He was aware that there was discussion within the RBHSC about the errors even if he did not understand the connection between the poor fluid management and the development of the cerebral oedema.[516] He acknowledged that he should have informed Mr and Mrs Crawford of those concerns.[517] He said that whilst he might

509 Dr C Stewart T-29-05-13 p.202 line20
510 Dr Chisakuta T-29-05-13 p.80 line 8
511 061-010-034
512 061-018-069
513 Dr Hanrahan T-05-06-13 p.182 line 24
514 WS-289-1 p.15
515 WS-289-1 p.15
516 Dr Hanrahan T-05-06-13 p.178 -179
517 Dr Hanrahan T-05-06-13 p.183 line 13

have told them there was some concern about how Lucy's fluids were managed he could not be sure.[518]

4.310 Dr Chisakuta observed that if Mr Crawford had been given such information he would likely have mentioned it when he wrote his letter of complaint to the SLT, which he did not.[519] Furthermore, had Dr Hanrahan suggested medical error to the Crawfords they would have pursued the issue with Dr O'Donohoe which they did not. I consider the strong likelihood is that Dr Hanrahan failed in his duty to tell the family that the fluids had been poorly managed. The parents had a right to that information and Dr Hanrahan had a duty to impart it.[520]

4.311 Mrs Crawford has stated that Dr Hanrahan merely directed them back to the Erne for answers.[521] Any further meeting with Dr O'Donohoe must have seemed pointless. Responsibility for this further failure in transparency and communication is not Dr Hanrahan's alone. There was a collective failure by all the RBHSC clinicians who had cared for Lucy to determine that concerns relating to Lucy's treatment and death would be explained to her parents and to ensure that it was done. This reflected the like failure at the Erne Hospital.

RBHSC: Audit/Mortality meeting

4.312 Dr Carson maintained that whilst there was no formal auditing of death certificates at that time in the RBHSC,[522] every death was considered and discussed at a mortality section meeting of the Clinical Paediatric Audit.[523]

4.313 Dr Taylor was the Paediatric Audit Co-ordinator in 2000 and responsible for chairing the mortality section of the Audit meeting.[524] He explained that the purpose of the mortality section was "*to discuss the child's death for*

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518 Dr Hanrahan T-05-06-13 p.182 line 8
519 Dr Chisakuta T-29-05-13 p.95-96
520 306-085-014 - GMC Good Medical Practice (1998) & 315-002-007 - rights recognised by the Charter for Patients and Clients (1992)
521 115-002-002
522 Dr Carson T-26-06-13 p.44-45
523 Dr Carson T-26-06-13 p.22
524 WS-280-1 p.3

learning purposes among the clinicians present."[525] All agreed that this was the purpose, in order as Dr Hanrahan put it, "*to try and learn lessons and to see should anything alternative have been done.*"[526]

4.314 The meetings convened monthly and lasted about half a day.[527] Normally more than one death was discussed at each meeting. The mortality discussions were un-minuted but this practice was not untypical of arrangements elsewhere at that time.

4.315 Dr McKaigue explained that such discussions were,

"*… an opportunity to present the events surrounding the death of patients in the Children's Hospital, primarily to a wider body of doctors (multi-disciplinary). Further, at that time there was a push within Audit circles to establish audit as a multi-professional process (nurses and professions allied to medicine). Before the presentation, the presenter would have had to collate and organise in a logical way the different strands pertaining to the case. Presentations were a way of announcing that a patient had died under the said circumstances and what the cause of death was thought to be. The death was not only being reviewed by the presenter but also by peers and other disciplines, who could bring a different perspective to aspects of the case. Implicit in this process was the opportunity to learn and reflect from listening to the presentation and ensuing discussion. Individuals would have had different learning experiences according to their specialty, previous knowledge and experience.*

Presentations were oral and usually facilitated by using computerised slides or an overhead projector and sometimes X-rays were displayed. For some presentations, radiologists and pathologists made a contribution. Patient details were anonymised.

The presentation would have consisted of a history including differential diagnoses, investigations and their results, when death occurred, the cause

525 WS-280-1 p.3
526 Dr Hanrahan T-05 -06-13 p.233 line 20
527 Dr Crean T-04-06-13 p.152 line 20

of death and whether or not the Coroner had been advised of the death. The follow-up with the patient's family was also described. In addition to the facts presented, there would have been commentary by the presenter to emphasise significant points/issues (as they saw them), put things into context and interpret results, if necessary.

Discussions around each presentation consisted of contributions from attendees reflecting their related experiences of similar cases, or making reference to a journal article or latest guideline, which they personally would recommend as being helpful.

Questions were asked by attendees to get more information where they felt detail was lacking or did not understand something. Suggestions were made to improve shortcomings if an attendee felt that was warranted. Occasionally, there were disagreements between attendees over expression of an opinion. A detailed minute of the presentation or discussion was not made."[528]

4.316 Dr Taylor agreed that every child death should have been presented and discussed within the mortality section of the meeting. He would have expected Lucy's death to have been presented by the lead consultant and pathologist[529] who would then have answered questions from the clinicians present. He explained that the purpose of the discussion was to "*review*" the settled position after a death rather than to conduct an "*investigation.*"[530] He said that mortality meetings were not "*passive*" but that "*serious matters were discussed*" and those who attended could say "*stop*" and ask that further investigations be conducted.[531]

4.317 Dr Crean acknowledged that Lucy's case ought to have provoked a serious discussion about the content of the death certificate. He contended that if Lucy's case had been discussed, "*people would have been jumping up and down asking all sorts of questions*" and saying "*this doesn't make sense*."[532]

528 WS-302-3 p.2-3
529 WS-280-1 p.3
530 Dr Taylor T-11-12-12 P.118, line 10-13
531 Dr Taylor T-04 -06-13 p.203-204
532 Dr Crean T-04 -06-13 p.153 line 17

He considered that such discussion would very probably have led to further and better investigation and possibly a referral back to the Coroner.[533]

4.318 The Inquiry was informed Lucy's death was discussed at an Audit meeting on the 10th August 2000.[534] That is all. It has not been suggested that discussion of the death triggered the kind of response which Dr Crean spoke about.

4.319 The evidence suggests that Dr Crean, Dr Chisakuta or Dr Hanrahan could each have been regarded as 'lead consultant' for Lucy within the RBHSC and each would have had the requisite knowledge to present her case at the Audit meeting. Both Dr Crean[535] and Dr Chisakuta[536] thought that Dr Hanrahan should have presented it. Dr Hanrahan did not accept that this was necessarily the case but recognised that there ought to have been a discussion to decide who should.[537] I consider that Dr Hanrahan was best placed to make the presentation but that the other doctors were also perfectly capable of doing so. I deprecate the failure of Drs Crean, Chisakuta and Hanrahan to decide who should undertake this important task.

4.320 I have considered a three page document said to be relevant to the Clinical Paediatric Audit meeting of 10 August 2000.[538] There is an attendance sheet dated 10th August 2000[539] indicating the attendance of thirty four persons. Only one of the clinicians who had cared for Lucy attended and that was Dr McKaigue who only saw her briefly upon arrival and did not treat her thereafter. The names of Drs Crean, Chisakuta, Hanrahan and O'Hara are absent from the attendance sheet. No apology is recorded from any of these doctors in relation to non-attendance.

533 Dr Crean T-04-06-13 p.154 line 23
534 061-038-123
535 WS-292/2 p.7
536 Dr Chisakuta T-29-05-13 p.114 line 10
537 Dr Hanrahan T-05-06-13 p.225 line 18
538 319-023-004
539 319-023-003

4.321 There is then a document described as the 'minutes' of the Clinical Paediatric Audit for 10 August 2000[540] which records that "*5 cases were presented and discussed*" in the mortality section of the meeting. Neither the cases discussed nor the names of the presenting clinicians are given. An additional document described as a "*redacted audit list*"[541] contains a spreadsheet noting Lucy's name, date of death, department where treated, named consultant and name of the pathologist conducting post-mortem.

4.322 If Lucy's death was discussed at the Audit meeting in August 2000 or indeed at any other time, I would have expected some evidence identifying the clinician(s) presenting her case. The attendance sheet does not indicate the attendance of anyone who could have given that presentation.

4.323 Dr Crean accepted that it is unlikely that he was in attendance. He explained that circumstances could have arisen such as an emergency to prevent him attending.[542] Dr Chisakuta told me that he was not present at the Audit meeting[543] and did not know whether Lucy's death was discussed.[544] Dr Hanrahan conceded that he "*clearly wasn't at it.*"[545]

4.324 Dr McKaigue was at the meeting and stated that whilst he could have spoken about Lucy's condition at the time of admission he did not present her case.[546] He had no memory of the meeting but did admit to what he described as a "*vague memory that Dr Hanrahan presented Lucy Crawford's case at an audit meeting in the Children's Hospital,*" but could not say when that meeting took place.[547]

4.325 Dr Taylor cast doubt on whether the meeting on 10th August 2000 included presentation of Lucy's death, reasoning that as Chairman of the meeting he would not have permitted "*a case to be presented without at least two of the three major people involved*." He stated that it "*defies logic to conclude*

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540 319-023-004
541 319-023-005
542 Dr Crean T-04-06-13 p.152-153
543 WS-283-1 p.12
544 WS-283-1 p.12
545 Dr Hanrahan T-05 -06-13 p.225 line 4
546 WS-302-3 p.3
547 c.f. Dr McKaigue's evidence discussed at para 3.239

that her case was discussed at that meeting."[548] Like Dr Taylor, I cannot understand how Lucy's death could have been presented at an Audit meeting in the absence of Drs Crean, Chisakuta, Hanrahan and/or O'Hara.[549]

4.326 I conclude therefore that the Audit meeting of 10th August 2000 did not consider Lucy's death. I received no evidence to suggest that her death was discussed at any subsequent Audit meeting. It is very unsatisfactory that no one could explain why her death was not discussed. However, Lucy's death was no more considered at an audit meeting than the deaths from dilutional hyponatraemia of Adam Strain and Claire Roberts. It is hard not to discern a pattern of avoidance given that some of the same clinicians were involved.

4.327 The mortality section of the Audit meeting provided real opportunity to concentrate on how Lucy had died, to query what had happened and to derive some learning from the tragedy. The failure to present Lucy's death must deepen concern that some clinicians at the RBHSC did not wish to focus on the question of how she had died.

4.328 If Dr Taylor was aware that the presentation of Lucy's death had not occurred he ought to have taken steps to ensure that this was addressed. While I am satisfied that Dr Taylor had no formal authority to compel a presentation if Drs Crean, Chisakuta, Hanrahan and O'Hara were unable or unwilling to do it, pressure could and should have been applied. The failure of these doctors to arrange for an audit discussion and the consequence of that failure is disturbing. Each of these doctors was responsible for that failure. This was a real opportunity to learn from the tragedy of Lucy's case, but it was squandered.

4.329 The failure to ensure the formal presentation and informed discussion of Lucy's death was the failure of individuals within a weak governance system. The fragility of the system allowed clinicians to avoid audit

548 Dr Taylor T-04 -06-13 p.208 line 23
549 Dr Taylor T-04 -06-13 p.40 line 12

presentation without fear of sanction. Dr Carson said he did not have the staff to deliver "*a robust governance arrangement.*"[550] It did not require staffing to discuss Lucy's death in this context, just a willingness to do so.

Concluding Remarks

4.330 Having reflected upon the evidence, I am of the view that the poor care which Lucy received was initially and deliberately concealed by clinicians at both the RBHSC and the Erne Hospital from the family, the Coroner and the pathologist who all should have been told of the suspected mismanagement of fluids.

4.331 The failure by senior clinicians to address the issue with appropriate candour suppressed the truth and inhibited proper examination of what had gone wrong. The motivations for this concealment may be multiple, but I count amongst them a determination to protect professional colleagues from having to confront their clinical errors.

4.332 As a result the opportunity to learn lessons was disregarded and critical learning was lost to clinicians delivering fluid therapy to other children in Northern Ireland. When Raychel came to be treated in the Altnagelvin Hospital fourteen months later, Solution No. 18 was still being used without appropriate guidance as to the risks.

[550] Dr Carson T-26 -06-13 p.23 line 3