

## **The Inquiry into Hyponatraemia-related Deaths**

A SELECTIVE TRIANGULATION OF A RANGE OF EVIDENCE SOURCES SUBMITTED TO EXPLAIN  
THE CHRONOLOGY OF NURSE EDUCATION IN NORTHERN IRELAND AND ENGLAND WITH  
REFERENCE TO THE TEACHING OF RECORD KEEPING AND THE CARE OF CHILDREN RECEIVING  
INTRAVENOUS INFUSIONS

*1975 to date*

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### **PERSONAL INFORMATION**

I have been a registered nurse since 1973 and qualified as a children's nurse in 1975 after post registration training at Great Ormond Street Children's Hospital. I began teaching paediatric nursing at the Charles West School of Nursing Great Ormond Street London in 1978 and registered as a nurse teacher in 1979. After working first as a nurse tutor, then senior tutor and subsequently assistant director of nurse education, I took up a lecturer's post in the Nursing Studies Department within the Faculty of Medicine at the University of Southampton. I was appointed to the chair in nursing in 1991. I was formerly the vice chair of the RCN Society of Paediatric Nursing for 5 years. I have edited and published a range of 14 nursing textbooks and over 180 scholarly journal papers. I have been a senior NMC reviewer for the last 8 years.

## STATEMENT

The information contained in this appendix to Professor Hanratty's report, is to the best of my knowledge, true at the time of writing.

Signed .....  
E.A. Glasper

## INTRODUCTION

This report has been prepared in response to a request to confirm the veracity of a sample of the information contained in Professor Hanratty's report as applied to English nursing education during the period in question. In particular, this investigation considers the themes of Fluid Management and Record Keeping within the English nursing curriculum. The period under consideration is from 1975 until the present day.

## METHODOLOGY

**Content analysis, with regard to "Fluid Management and Record Keeping" of**

- **Current paediatric nursing skills textbooks,**
- **GNC, UKCC, ENB, and NMC contemporary and archive documentation**
- **Curricular exemplars**

Evidence to conduct this triangulation of the submitted evidence was primarily sourced from the archives held at the NMC and at the National Archives at Kew in London.

## HISTORICAL BACKGROUND

Although the informal training of sick children's nurses in England commenced immediately after the Hospital for Sick Children at Great Ormond Street, London opened in 1852, it was not until 1878 that the first formal training school was founded. Besser (1977) in describing the outstanding men of Great Ormond Street in his tribute to the 125 years of service of the hospital reminds the reader of Charles West's publication "How to Nurse Sick Children" which appeared in 1854. The tradition of producing textbooks to underpin the children's nursing curriculum continues to the present day with a wide variety of clinical skills books that purport to cover the full spectrum of competencies children's nurses need to practise safely.

Although the education of children's nurses was enshrined within the mission statements of many children's hospitals in the 19<sup>th</sup> century, the campaign by children's nurses for statutory training and a recordable, professional qualification was protracted and hard. Gasper and Charles Edwards (2002) report that it was Mrs Ethel Bedford Fenwick, the founder of The British Nurses' Association, with over two decades of action to develop a nurse's register, who actually lobbied against including the names of nurses trained only in the nursing of sick children on a supplementary register of nurses (despite herself commencing nurse training as a children's nurse probationer at Nottingham Children's Hospital).

Ironically, Florence Nightingale herself was opposed to any form of nurse registration and effectively stifled its introduction until after her death (Baly 1973). Despite this and the opposition from Mrs Bedford Fenwick who became the UK's first nurse registrant, in December 1919 the Nurses' Bill received royal assent with a mandate to create a General Nursing Council (GNC) for England and Wales, Scotland and Northern Ireland. In addition to the general part of the register, a number of supplementary parts including the names of nurses trained in the nursing of sick children were ratified. The campaign was helped by one of Great Ormond Street's most famous matrons, Catherine Jane Wood who in 1888 first stated that,

'sick children require special nursing and sick children's nurses require special training' leaving a legacy for future defenders of children's nurse training to use in future discussions with those seeking a single part general register. The issue of what should be included within the children's nursing curriculum has been debated ever since. It is important to stress that although the initial GNC register allowed applications from nurses who had only been trained in the nursing of sick children, the future destiny of the direct entry programme to prepare children's nurses was poor with Saxton (1978) reporting the cessation of the three-year single RSCN training at Great Ormond Street in 1964 (N.B. Wales never had a three-year RSCN programme and the programme in Northern Ireland was abolished in September 1978 (Love 1998)). Although Scotland retained the 3 year direct entry children's nursing programme, the only way to become a children's nurse in the other countries until the advent of Project 2000 entailed undertaking a combined General and Children's nursing programme which were only offered in the larger stand alone children's hospitals.

### **Content analysis of contemporary textbooks**

Although guidance on the prevention of hyponatraemia in children was issued by DHSSPSNI in March 2002 (McAloon and Kottyal 2005), it was not until March 2007 that the National Patient Safety Agency published "Reducing the risk of hyponatraemia when administering intravenous infusions to children" (NPSA 2007) for England and Wales.

The NPSA recommended that NHS and independent sector organisations in England and Wales take the following actions by 30 September 2007 to minimise the risk of hyponatraemia in children:

1. Remove sodium chloride 0.18% with glucose 4% intravenous infusions from stock and general use in areas that treat children. Suitable alternatives must be available. Restrict availability of these intravenous infusions to critical care and specialist wards such as renal, liver and cardiac units.

2. Produce and disseminate clinical guidelines for the fluid management of paediatric patients. These should give clear recommendations for fluid selection, and clinical and laboratory monitoring.
3. Provide adequate training and supervision for all staff involved in the prescribing, administering and monitoring of intravenous infusions for children.
4. Reinforce safer practice by reviewing and improving the design of existing intravenous fluid prescriptions and fluid balance charts for children.
5. Promote the reporting of hospital-acquired hyponatraemia incidents via local risk management reporting systems. Implement an audit programme to ensure NPSA recommendations and local procedures are being adhered to.

This patient safety alert was sent to a wide range of key informants but importantly not to members of the academic nursing community as indicated in the list of recipients and cited by Professor Hanratty in her report.

Additionally the NPSA guidance stated that:

*“Whichever fluid is used, the optimal way of avoiding dangerous hypo- or hypernatraemia is to calculate fluid balance and monitor the plasma sodium concentration regularly.”*

Given the degree of evidence-based knowledge available in the public domain, it might be expected to find references to hyponatraemia within the intravenous fluid management sections of contemporary children’s nursing textbooks. Although all the textbooks examined contain significant instructions on the care of children receiving intravenous infusions, content analysis of this range of well-known paediatric nursing skills books shows no information on the specific measures to take in preventing hyponatraemia.

All textbooks contain significant chapters on record keeping

The textbooks examined were:

1. Glasper A, Aylott M, Battrick C (eds.) (2009), "Developing Practical Skills for Nursing Children and Young People", Hodder Arnold, London.
2. Glasper A, McEwing G, Richardson J (eds.) (2009), "Foundation Skills for Caring: Using Student-centred Learning", Palgrave Macmillan, Basingstoke.
3. Glasper A, Aylott M, Prudhoe G (eds.) (2007), "Fundamental Aspects of Children's and Young People's Nursing Procedures", Quay Books.
4. Trigg E, Mohammed T (2006), "Practices in Children's Nursing: Guidelines for Hospital and Community", Elsevier Churchill Livingstone, Edinburgh.
5. Kelsey J, McEwing G (2008), "Clinical Skills in Child Health Practice", Elsevier Churchill Livingstone, Edinburgh.

**Content analysis of UKCC, ENB, and NMC contemporary and archive documentation**

Data was gathered over three specific days:

1. 03/11/2010 (venue: Southampton University Hospital Library)
2. 08/11/2010 (venue: NMC archives. London )
3. 12/11/2010 (venue: National Archives Kew London)

## Data from Southampton University Hospital Library

A range of documents was retrieved from the library pertinent to the period under investigation. Additionally, curricula pertinent to nursing courses offered by the University of Southampton prior to the incorporation of NHS schools of nursing into higher education and in possession of the author of this report were content assessed with particular reference to the care of patients receiving intravenous infusions and record keeping.

### **Content analysis of University of Southampton nursing degree course curricula**

These were:

1. The 1982 4-year Bachelor of Nursing Curriculum leading to an unclassified degree and RGN registration with the GNC. **Content related to Record keeping:** "Appreciate the need for accuracy, completeness and clarity in nursing documents in order to provide high quality care". **Content related to intravenous infusions:** "apply nursing, psychological, sociological and bio-medical concepts in caring for sick children" "Administration of drugs and fluids to children" "assembling equipment for medical procedures such as lumbar punctures and intravenous therapy"
2. The 1991 3-year Bachelor of Nursing Curriculum leading to a classified honours degree and Part 12 adult registration with the UKCC. **Content related to record keeping:** "Define and describe the steps of the nursing process", "critically evaluate the role of nursing reports in maintaining continuity of care for patients" **Content related to intravenous infusions:** Nil
3. The 1994 3-year Bachelor of Nursing Curriculum leading to a classified honours degree and Part 15 children's nursing registration with the

**UKCC. Content related to record keeping:** no specific details. **Content related to intravenous infusions:** no specific details.

In common with outline curriculum of the period, all these curricula from this period lacked any specific detail of the parameters of this current Inquiry.

**Content analysis of The Wessex Regional Health Authority Education and Training Strategy for Nursing and Midwifery Staff dated June 1989**

Although the position paper of the Health Authority is strident in its explicit standards that all child patient areas must have a registered children's nurse on duty 24 hours per day, there are no specific endorsements of particular competencies pertinent to this Inquiry.

**Content analysis of a UKKC communiqué entitled "A message from the chairman of council" dated May 1986**

The prime message of this letter was to reinforce the role of the National Boards i.e. to interpret the Council's requirements and approve training programmes. However, in Northern Ireland, the Nurses and Midwives Act 1970 gave local training committees more control in planning curricula.

**Content analysis of the Project 2000 curriculum of the Southampton and Southwest Hampshire Health Authority (College of Nursing and midwifery) dated June 1990**

**Content related to record keeping:** With reference to record keeping, one of the learning outcomes (page 52) states "use appropriate communication channels to establish meaningful and supportive interactions with clients" and importantly "contribute to the passing on of appropriate information to ensure the continuity of care" (page 53)



**Content related to intravenous infusions:** In Unit 3 of the Child field of practice curriculum, learning outcome 3.6 states “Gained knowledge and skills in the safe administration of drugs, intravenous infusion and blood transfusion to children”

### Data from NMC archives. London

#### The following papers were retrieved

- **The GNC 1964 Syllabus of subjects for the examination for the certificate of the nursing of sick children.** Although this document lies outside the temporal parameters of this Inquiry, it offers a useful insight into the evolution of regulatory curricula guidance. It is important to stress at this point that such regulatory guidance has been in the past, and remains so to the present day, one of a ‘broad brush stroke’ approach where individual educational providers have been given licence to interpret regulatory publication as they see fit. This notwithstanding, all courses leading to registration are subject to regulatory approval and, until the late 1980s, state examinations. Anecdotal evidence derived from conversations with many nurse educators suggests that state examinations are still favourably viewed as a way of providing stronger compliance to regulatory curricular advice. Hence, the 1964 syllabus is a useful lens through which to view how regulatory advice to the profession has evolved since then. Content analysis of the syllabus shows a single reference to intravenous and subcutaneous infusions but with no specific detail.
- **The 1977 Training Syllabus. Register of Nurses. General and Sick Children’s Nursing. Amended 1977.** It is important to stress that this syllabus produced by the GNC was the only syllabus for the training of registered children’s nurses prior to the introduction of Project 2000 as direct entry courses had been phased out from 1964 onwards. This course was combined with that of general nurse training but also made provision for the award of the certificate of the nursing of sick children to existing registrants or those on

the Roll of Nurses via a shortened course of study predicated on the same syllabus. The syllabus was appropriately marked with an asterisk where the GNC believed previous training should have addressed the learning outcomes. However, the only reference to record keeping in the syllabus is "Recording of necessary particulars" (general care of patients and nursing procedures page 3). With regard to intravenous infusions, delineated in the part of the syllabus entitled General care of patients and nursing procedures is the entry "intravenous, subcutaneous and other parenteral infusions" (page4) underpinned by a single entry "ability to interpret the observations made to understand the significance of disturbed function and to know the pattern of defined diseases and the patients response to treatment." (page7)

- **The 1977 Training syllabus. Register of Nurses. General Nursing. Amended in 1977.** Up until the introduction of the Project 2000 curriculum, the GNC general nursing syllabus ensured that all students received some tuition and experience in the care of sick children. As prospective general nurses, such students were trained to work in a wide range of health care environments. After the instruction of Project 2000, nurses had to work within the curtilage of their own part of the register, i.e. adult nurses to only work with adult patients unless supervised by another registrant on an appropriate part of the register e.g. an adult nurse could be involved in the care of a sick child but only if supervised by a registered children's nurse. This notion of "due regard" was increasingly enforced by the UKCC and latterly the NMC. To meet European nursing legislation commonly referred to as The European Directive (<http://www.nmc-uk.org/Documents/Circulars/2006circulars/NMC%20circular%2036-2006.pdf>), the NMC expect students training to become adult field of practice nurses to provide evidence of experience in specific areas of care, as in EU regulations this must be demonstrated by the end of the overall programme. Experience may be accumulated in any part of the programme. The areas of care required by the EU are:

1. Medical Nursing
2. Surgical Nursing
3. Care of Children
4. Maternity
5. Mental Health
6. Care of Older People
7. Home Nursing

**In relation to Childcare and paediatrics, the NMC state that:**

The NMC state that learning should be achieved in relation to caring for children and young people (aged 0 – 16) in hospital or community settings as well as working to promote the health of children and young people. This may include well children or those with acute episodes of illness or children with long-term health conditions. It is important to stress that, although rare, children less than 16 years of age may be cared for in an adult environment. This should be the child's choice, and in the absence of a dedicated adolescent unit, young people may prefer to opt for this. Unless absolutely necessary, current child health policy prohibits the admission of young children to adult care areas. Where this does occur, "due regard would apply" (the child would have to be cared for by a registered children's nurse) and there would be an expectation that the environment of care would be configured to reflect a child patient. The learning from theoretical and direct care experiences should demonstrate an understanding of children and young people in society (including the need to safeguard / protect children), working with parents and other carers, communicating with children and young people, including gaining consent, a sense of the changing needs and levels of autonomy as the child develops, an appreciation of the differences in anatomy and physiology as children grow and develop and their altered tolerance to medication. The emphasis should be on achieving an insight into the specific and changing needs of the child or young person, what these are and how they can be assessed, and how nurses can meet these through planned care.

The NMC stress that it would not be intended that the nurse would demonstrate the skills of a registered children's nurse.

As in the combined training syllabus, the 1977 syllabus for general nursing with regard to record keeping simply states "recording of necessary particulars" (page 3) and for intravenous infusions "intravenous, subcutaneous and other parenteral infusions" (page 4). The syllabus has a specific section (page 9) entitled "welfare of children and care of sick children" The general aims of this section of the syllabus specifically state that the student should be able to "demonstrate the ability to assess and satisfy the needs of children for (among others) (b) hydration" Importantly, the 1977 syllabus recommended 8 weeks of experience in the care of children.

- **The 1977 Training syllabus. Roll of Nurses. General Nursing. Revised 1977.** As with the Training syllabus for the register of nurses, there is scant mention of either record keeping or the care of patients receiving intravenous infusions. Page 3 with reference to record keeping simply states "recording of necessary particulars" and page 4 with regard to intravenous infusions "intravenous, subcutaneous and other parenteral infusions" Page 7 of the syllabus states that "specific units of experience should be arranged as follows" -"Child welfare and care of sick children".
- **Statutory Instrument. Rule 18A of the Nurses, Midwives and Health Visitors Approval Order 1983.** This is fully debated in Professor Hanratty's main report and makes only vague reference to record keeping and the identification of a patient's physical needs.
- **NMC Essential Skills Clusters dated March 2007. (See appendix)** There were a number of criticisms of the Project 2000 training curriculum and in particular the teaching of clinical skills. Richardson et al (2007) report that

existing practitioners were sometimes suspicious about the knowledge and skills of the new registrants from these programmes. An erroneous impression sprang up that these 'new' nurses did not have enough practical experience. This was because the new style of training entitled students to have supernumerary status i.e. they were not rostered as part of the NHS workforce. Hence the protected 2,300 hours of protected clinical learning time mandated under the new training scheme was perceived to be significantly less than the older apprenticeship style of training. In the light of these experiences, the Peach report (UKCC, 1999) offered recommendations which formed the basis of the current 'Fitness for Practice' curriculum and Professor Hanratty's report gives detail of this. The Fitness for Practice model made the clinical and biomedical aspects more explicit to overcome some of these issues. These include more stringent emphasis on numeracy and literacy. Perhaps to augment this, "The Essential Skills clusters" (ESCs) for pre-registration Nursing Programmes were issued in 2007 and evidence for their use in programmes would henceforth be elicited by NMC reviewers during programme approvals or programme monitoring. This document begins to delineate the skills that nurses entering the register must possess. Importantly this document confirms that mandatory health related numerical assessments are required (by programme providers) to test skills (of students) within the ESCs that encompass baseline assessment and calculations associated with medicines, nutrition, fluids and other areas requiring the use of numbers relevant to the field of practice. The ESCs highlighted for this numerical assessment are as follows: 9, 27, 28, 29, 31, 32, 33, 36, 38. These skills clusters e.g. 9 in relation to record keeping (part X111) are quite explicit - "makes a holistic and systematic assessment of physical, emotional, psychological, social, cultural and spiritual needs including risk and creates a comprehensive plan of nursing care in partnership with the patient /client, carer, family or friends." Skills cluster 32 (part 11) with reference to intravenous fluids states "monitors and assesses patients /clients receiving intravenous fluids" and (part 111) "Documents progress against prescription

and markers of hydration”. Skills cluster 36 (part 111) states “Safely manages drug administration and monitors effects”.

With reference to record keeping, ESC 6 (part V111) specifically states, “provides accurate and comprehensive written and verbal reports based on best available evidence”.

However, despite the more comprehensive and in depth nature of the NMC Skills clusters, specific guidance pertinent to this Inquiry remains tangential, i.e. there is no specific regulatory guidance pertinent to the teaching of intravenous fluid management and hyponatraemia.

- **ENB Education in Focus. Strengthening pre-registration nursing and midwifery education. Curriculum guidance and requirements. Dated January 2000.** This boxed set of guides also included curriculum guidance and requirements for children’s nursing leading to part 15 of the register. The ENB guidance details 4 domains for each of the fields of nursing practice namely: professional / ethical practice, care delivery, care management, and personal / professional; This development lacks the specificity that this Inquiry seeks, i.e. curricular guidance on the teaching of record keeping and the care of children receiving intravenous infusions.
- **Standards for pre-registration nursing education. Dated 2010.** On the 16 September 2010, after a full and comprehensive review, the Nursing and Midwifery Council (NMC) published new UK wide standards and supporting information for pre-registration nursing education. (<http://standards.nmc-uk.org/PreRegNursing/Pages/FAQs.aspx>)

In addition to the comprehensive range of generic competencies that are to be acquired by all nurses, the new standards identify for each field of practice the knowledge, skills and attitudes students must acquire by the

end of their programme. These will be organised around four specific domains namely:

1. professional values
2. communication and interpersonal skills
3. nursing practice and decision making
4. leadership, management and team working

For the first time detailed field of practice specific statements of competence have been identified which apply to all four fields of practice. The NMC have developed 10 educational standards, these are:

1. Safeguarding the public
2. Equality and diversity
3. Selection ,admission ,progression and completion
4. Support of students and educators
5. Structure, design and delivery of programmes
6. Practice learning opportunities
7. Outcomes (theory and practice)
8. Assessment
9. Resources
10. Quality assurance

Within the children's nursing competencies there is considerable detail pertinent to safety and the importance of using evidence based child centred frameworks to assess, plan, implement, evaluate and record care and to underpin clinical judgments and decision making (competency 1.2). Additionally (competency 3.1), children's nurses must carry out comprehensive nursing assessments of children and young people, recognising the particular vulnerability of infants and young children to rapid deterioration. Despite this greater specificity in regulatory curriculum

guidance e.g. competency 7 which states “all nurses must be able to recognise and interpret signs of normal and deteriorating mental and physical health and respond promptly to maintain or improve the health and comfort of the service user, acting to keep them and others safe”, remains at the broad principle level rather than the specificity level. The interpretation of the NMC competencies through curricular content is therefore dependent on curriculum development team. It is important to stress that all new NMC course approvals seek evidence of curriculum partnership between the service providers and the approved educational institution.

### **Quality assurance of nurse education**

Although regulatory guidance has become more specific and deals with broad concepts in setting the standards of education, training and conduct that nurses and midwives need to deliver high-quality health care consistently throughout their careers, the NMC applies two distinct processes to assure themselves that their primary function of protecting the public is robustly defended. The processes are firstly course approvals, and secondly programme monitoring.

Course approvals are prospective events where a university and its partners (NHS and other healthcare institutions, commissioners of education, usually a strategic health authority and, importantly, representatives of the patients and public) are subject to scrutiny by an approval panel that includes representatives from the NMC. Programme monitoring is a retrospective process where a team of selected NMC monitors spends several days visiting a particular higher education institution and its partners.

During these monitoring exercises, representatives of the NMC visit mentors and their students in a variety of practice settings to see first-hand how students are prepared to become future registrants.



In 2006, to ensure its own impartiality, the NMC awarded a contract to Mott MacDonald (formerly HLSP) to run the quality assurance (QA) framework for nursing and midwifery training programmes across England, Scotland and Northern Ireland and, in 2010, Wales (Wales was previously monitored by Health Inspectorate Wales) ([www.mottmac.com/projects/?id=3398](http://www.mottmac.com/projects/?id=3398)).

One of the advantages Mott MacDonald brings to this role is their prior experience in implementing Ofsted quality inspection processes in schools. The NMC through Mott MacDonald have subsequently developed highly sophisticated processes through which evidence of regulatory compliance is triangulated by appointed reviewers and members of the nursing and midwifery profession. Their role involves reviewing the academic teaching arrangements and quality of clinical training that nursing and midwifery students receive in hospitals, communities and other healthcare settings. The appointed reviewers are fully trained by the NMC and Mott MacDonald and use an innovative, risk-based approach for the review of clinical training. In approving and monitoring programmes, reviewers seek to ensure that nurse educational courses are informed by evidence from a wide variety of sources such as the NPSA.

### **Data from the national archives**

- **ENB written statement to the Bristol Royal Infirmary Inquiry dated 03/03/1999. (Kew archive reference WIT 0063)** This comprehensive written statement of the English National Board for Nursing, Midwifery and Health visiting was submitted by the then chief executive Anthony P Smith and is perhaps one of the most succinct accounts of the history of pre and post registration children's nursing education. Although implicit within this submission to a public inquiry is detail pertinent to record keeping and clinical care, there are no specific references to the care of children receiving

intravenous infusions or children with hyponatraemia (NB a copy of this submission is appended to this document).

- **Royal College of Nursing - first submission to the Bristol Royal Infirmary Inquiry dated 12/05/1999.** This royal college submission gives significant detail of the expectations of children's nurses from the perspective of the 15 paediatric nursing groups within the RCN at that time. Although this report gives details of both pre and post registration training for children's nurses, there are no specific references pertinent to the parameters of this Inquiry (NB a copy of the RCN submission is appended to this document).
- **University of Northumbria. Curriculum 73 week enrolled nurse (general) to registered sick children's nurse (RSCN course) dated May 1995.** This course, like many in England, was predicated on the 1991 Department of Health guidelines for the care of children and young people in Hospital (DOH 1991). To illustrate this, one of the key recommendations of this "Welfare Document" was the specific recommendation that at least two registered sick children's nurses (RSCNs or Project 2000 child branch) should be on duty 24 hours a day in all hospital children's departments or wards. This guidance document issued by the Department Of Health was an attempt to get health districts to improve the quality of children's health care. A number of university nursing departments attempted to design courses to help fill the gaps in children's nursing provision across England. This curriculum from the University of Northumbria gave details of a number of aims pertinent to this Inquiry e.g. Aim 4 "have the knowledge and competence to make decisions and initiate appropriate actions that enhance the well being of children and their families at home or in hospital" . In this context, the Northumbria curriculum alludes to teaching children's nurses the decision-making skills to first recognise a deteriorating child and secondly doing something about it once recognised. This might for example entail seeking help from another practitioner. Additionally within the student progress assessment documentation (module 2 2.2) "writes a

clearly expressed plan of care appropriate to the age and stage of development of the child” and (3.5) “Demonstrates ability to participate in the provision of care when illness disturbs the Childs normal daily living pattern and the following problems occur (A -J). C = dehydration.” Part 5 of the assessment document specifically states, “Demonstrates ability to liaise effectively with the MDT”. In module 3 of the curriculum entitled Implementation of care, part 3.3 states “Demonstrates competence in responding to changes in the child’s condition and communicating changes to other health professionals as appropriate.”

- **Bede, Newcastle and Northumbria College of Health Studies 26 week registered sick children’s nursing course (part 8) dated 1994.** This course, as with many across England, was designed for registrants who had significant experience of caring for children. The course aims and module outlines are very similar to the 73-week course discussed above with only broad references to the focus of this Inquiry. However, within this curriculum example held within the archives are sample examination questions that allow a greater insight into what specifically was taught to the students following the course, e.g., an 11 year old with burns to the chest. Fluid loss and intravenous replacement and importantly maintenance of fluids and electrolytes are listed within the answer guide are listed. Although this curriculum exemplar includes the UKCC prescribed learning outcomes pertinent to part 8 (children’s nursing), they lack specificity to the nature of this Inquiry which seeks illumination of what was taught about record keeping and the care of children receiving intravenous infusions.
- **Sheffield school of nursing submission to the ENB. Shortened 61-week course curriculum part to part 8 of the professional register. Dated 1988.** This curricular example was designed for registered general nurses to develop their skills in children’s nursing. The Sheffield course comprised six units of study, some of which give details of interest to this Inquiry. For example, unit 3

objective 12 states “participate in the assessment of care for the child recognising the responsibility for reporting change and participate in appropriate nursing responses”, others include “demonstrate compliance in carrying out observations, evaluate the child’s health status, and recognise the application and value of research in the evaluation of nursing sick children and their families.” In unit 4 of the curriculum, a range of objectives are also pertinent to this Inquiry, namely, “observe and participate in the ongoing assessment, planning, and implementation of care for critically ill infants” and “recognise the increased nursing role in the maintenance of homeostasis and normal function”. N.B. all of the objectives of the Sheffield course are explicitly based on Rule 18A and the 1985 ENB guidelines to the syllabus.

- **The Charles West School of Nursing. Registered Sick Children’s Nursing Post Registration Course dated 1990.** This archived curriculum document provides some insight into the teaching of subjects which have a bearing on the focus of this Inquiry. The curriculum details 13 specific aims. Aim 4 states “To develop the capacity to assess the child’s nursing requirements and to recognise the significance of observations”. Aim 7 states “To develop the ability to review the effectiveness of the nursing care given to children and initiate any changes which may be required”. In section 2 of the curriculum entitled “Caring for children who are seriously ill in hospital” one of the learning outcomes are pertinent to intravenous infusions, “physical and psychological care of children receiving TPN (i.e. Total Parenteral Nutrition).” Within the section related to skills, skill number 11 is entitled intravenous infusion and has 3 parts namely, assisting in establishing an IV line, securing an IV cannula and regulating the rate of an IV (manually and using an IVAC infusion pump). Overall, this curriculum example is devoid of detail within the parameters of the Inquiry.
- **GNC Final State examinations (sick children and general nurses).** One of the ways in which to judge how much detail is given to a particular subject in the curriculum is to analyse the wording of nursing examination questions. A full

range of state examination papers over a 22 year period extending from 1971 through to 1983 (3 per year) were retrieved from the National Archive, and content analysed for the period 1971 to 1983. The first question pertinent to this Inquiry was posed on Monday 22<sup>nd</sup> October 1972: "What are the nurse's responsibilities with regard to A) Intravenous infusions 33.3% B) Plural drainage C) Aspiration of a tracheostomy? The second question was posed in the January 1974 paper "for 33.3% describe the care and management of a patient receiving a blood transfusion for anaemia". The third question was posed in the October 1976 examination. "How would you recognise that a patient was dehydrated? 20%, Why are infants more vulnerable to dehydration than adults? 20%, What should you teach a junior nurse about the total care of a 3 month old infant receiving scalp vein infusion? 60%". The fourth question in the 22 year span of examination questions analysed was posed for the February 1978 examination "what explanation would you give to the junior nurses who is helping with his care about the dangers of dehydration in infancy? 20%"

## **Discussion and conclusions**

The content analysis of a selected range of archive documentation pertinent to the pre and post registration education of children's nurses in England with specific reference to the teaching of record keeping and the care of children receiving intravenous infusions is congruent to the main findings of Professor Hanratty's report. This triangulation of a range of evidence sources, including contemporary clinical skills textbooks, confirms that specific instruction on the care of children receiving intravenous infusions is primarily implicit within regulatory syllabus guidance and explicit in the contemporary textbooks. Although some curricular documentation from a variety of educational institutions demonstrates some content pertinent to intravenous infusion care, the specific inclusion of the link between childhood intravenous infusions and hyponatraemia is absent in all the documentation analysed for this appendix to Professor Hanratty's report.

Content analysis of this range of documents does however show significantly more detail with regard to assessment and documentation /record keeping.

These findings are not surprising at the macro regulatory syllabus guidance level, as fine detail has been facilitated through the detailed timetabling and interpretation of the curriculum by individual institutions now known as AEIs (Approved Educational Institutions).

Although individual modular timetables are not normally part of archived curriculum documents, the role of the ENB and latterly the NMC to approve courses would have involved (and continues to do so) a detailed assessment of a range of sample timetables to ensure that the spirit of regulatory guidance is appropriately reflected within the curriculum. Professor Hanratty's report to this Inquiry confirms overall the paucity of published and archive documentation pertinent to the parameters of the investigation.

### **Recommendations**

- The National Patient Safety Agency should alert NMC programme leads in all approved educational institutions whenever a patient safety incident concerning children is reported.
- Curriculum submitted for approval by the NMC should give timetable exemplars showing how NSPA alerts have been incorporated within the curriculum.
- Children's nursing textbook editors should check all appropriate chapters for veracity against the NPSA website.
- The Association of Chief Children's Nurses (ACCN) should host all patient safety bulletins on its website ([accnuk.org](http://accnuk.org)) and cascade these to educational colleagues.

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