

## Pan Thames Report of the Paediatric Intensive Care Audit Network

January 2004 – December 2006



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### **KEY FOR PAN THAMES UNITS**

NHS Trust	Participating Hospital	Trust ID	Unit N°
Cambridge University Hospitals NHS Foundation Trust	Addenbrooke's Hospital	A	4
Brighton & Sussex University Hospitals NHS Trust	Royal Alexandra Hospital for Sick Children	В	2
Great Ormond Street Hospital NHS Trust	Great Ormond Street Hospital for Children	E	11
Guy's & St. Thomas' NHS Foundation Trust	Evelina Children's Hospital	F	12
King's College Hospital NHS Trust	King's College Hospital	Н	13
Royal Brompton & Harefield NHS Trust	Royal Brompton Hospital	Ο	14
St. George's Healthcare NHS Trust	St. George's Hospital	Т	15
St. Mary's NHS Trust	St. Mary's Hospital	U	16
The Lewisham Hospital NHS Trust	University Hospital, Lewisham	J	17

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PICANet is funded by the Department of Health, Health Commission Wales Specialist Services and The Royal Hospital for Sick Children, Edinburgh. The pan Thames PICU Commissioning Consortium fund the pan Thames PICANet co-ordinator post and Great Ormond Street Hospital provides an administrative base for this position. We are grateful to these organisations for their continued support.

The <u>Paediatric Intensive Care Society</u> (PICS), the PICANet <u>Clinical Advisory Group</u> (CAG) [Appendix B], and the <u>PICANet Steering Group</u> (SG) [Appendix C] are thanked for their continued support, advice and direction in developing PICANet. Angela Willshaw (University of Leeds) is thanked for her administrative support and Martin Perkins (University of Leicester) for PICANet software development and maintenance. We would also like to welcome Thomas Fleming (Database Manager), the newest member of the PICANet Team and thank him for managing and reporting on the data.

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#### 3 FOREWORD

On behalf of The Pan Thames Paediatric Intensive Care Consortium, we are pleased to accept the Pan Thames Annual Report 2004 – 2006, from the PICANet Team.

This report contains and describes three years of PICU activity within the region and is the result of substantial efforts made by pan Thames paediatric intensive care community. All members of the PICUs who contributed in collecting, managing and quality assuring the data used for this report are congratulated for their efforts.

We thank the PICANet Team for their continued efforts in collating, analysing and clearly presenting the wealth of data contained in this report.

As the burden of data collection in PICU enters another dimension with the collection of Paediatric Critical Care Minimum Data Set, units are encouraged to review their local data management strategies and collaborate with the regional Health Informatics Group (PHiG) to ease the burden of data collection wherever possible, prevent data entry duplication and improve their data quality.

The inclusion of the various regional work streams in this report will help in integrating what may seem discrete activates into a more coherent regional PICU strategy. These work streams are encouraged to use this as a platform to report developments and monitor progress.

The last three regional PICANet reports have provided a detailed picture of pan Thames PICU activity. As the commissioning of PICU services evolves, the ability to monitor and commission quality services will need to be developed further. The consortium welcomes the recent timely plans to establish a work steam that is to focus on audit and quality of services.

The consortium will continue to provide support for PICU developments. We encourage both commissioners and service providers alike to make the best use of the information contained in this report.

Mike Wood Chief Executive Officer Hammersmith and Fulham PCT Chair of the pan Thames PICU Commissioning Consortium

Stuart Rowe Lead Commissioner Hammersmith and Fulham PCT

#### 4 EXECUTIVE SUMMARY

- 1. This is the third report from the pan Thames consortium of the Paediatric Intensive Care Network (PICANet), fulfilling the aims and objectives of PICANet, the pan Thames PICU Commissioning Consortium and the Pan Thames (PICU) Health Informatics Groups (PHiG).
- PICANet is a clinical audit of paediatric intensive care (PIC) activity in England and Wales, aiming to improve patient outcomes through providing information on delivery of care to critically ill children and an evidence base for clinical governance.
   PICANet was established in 2001 and functions in close collaboration with members of the PIC clinical community.
- 3. The specific objectives of PICANet are to identify best practice, monitor supply and demand, monitor and review outcomes of treatment episodes, facilitate strategic health care planning, quantify resource requirements and study the epidemiology of critical illness in children.
- 4. Rigorous data quality procedures, incorporating iterative feedback loops between PICANet and participating Paediatric Intensive Care Units (PICUs), continue to ensure the dataset is of high quality.
- 5. PICANet are developing and expanding the core dataset in response to changes in the infrastructure and funding streams of the NHS. PICANet have provided customised software for PICUs to record the Paediatric Critical Care Minimum Dataset (PCCMDS) to support the Paediatric Critical Care Healthcare Resource Groups (HRGs) and Payment by Results (PbR). Identification of individual General Practices by GP Practice Code is included, as requested by the pan Thames Commissioners. The flexibility for the collection of PICU-specific additional items will remain, whilst additional modules, to include a new section relating to retrievals, are under construction.
- 6. PICANet aggregates a core dataset from all member PICUs on a secure server in Leeds. Nine out of the 29 PICUs contributing data to PICANet fall within the pan Thames region.
- 7. In this report, the difference in data quality between pan Thames and non pan Thames PICUs was scrutinised. Although some local PICUs have made significant improvements in managing their PICANet database, there remains substantial room for improvement in the recording levels, particularly of some physiological measurements, NHS Number and 30 day follow-up information.
- 8. Two groups of pan Thames patients are identified: (1) patients who attend pan Thames PICUs and (2) patients who live in the pan Thames region, but who attend other PICUs within the UK. This report focuses on patients who were treated in pan Thames PICUs, although some sections present data based on the latter group.
- 9. The Strategic Health Authority (SHA) of the patients' residence at time of admission is determined via their postcode. Prevalence of admissions to paediatric intensive care by SHA is mapped using population counts from the 2001 UK Census. The reorganisation of NHS Primary Care Organisations in 2006 is also reflected in this report.
- 10. Data are presented on 15,969 admissions to the 9 pan Thames PICUs for the period 2004-2006. Of these, 15,745 admissions were for children under the age of 16

years. Pan Thames admitted 37% (15,745/42,221) of all admissions aged under 16 years reported to PICANet.

- 11. Analysis of the 15745 admissions to the Pan Thames PICU units over the three year period from January 2004 to December 2006 indicate that while overall numbers remain relatively stable at between 5160 and 5372 per annum, the source of those admissions varies year on year with a gradual increase appearing in out of area and non UK national admissions per year. This has an effect on local capacity and the consortium will be working closely with providers and the PICANet team to better understand these detailed yet significant changes in the demand for PICU services.
- 12. Children under 1 year comprise 49% of all admissions, with an overall excess of boys (57%) compared to girls (43%).
- 13. The majority of admissions (59%) are unplanned.
- 14. Retrieval of 76% of children is by specialist paediatric intensive care teams.
- 15. Invasive ventilation procedures are recorded for 68% of admissions but this varies by trust between 6% and 88% over the three years.
- A total of 88,265 bed days were delivered between 2004 and 2006 within pan Thames. This represents 36% (88,265/ 242,997) of all bed days recorded in PICANet. There is a drop in annual bed days delivered in pan Thames from 30,640 in 2004 to 28,535 in 2006.
- 17. Length of stay has been calculated to the minute and presented as numbers of admissions by length of stay category and diagnostic group. Length of stay ranges from less than an hour (0.2% of admissions) to 7 days or longer (16% of admissions).
- 18. A 'bed census' has been calculated for children occupying a bed at 10 minutes past midnight on each day, to provide a more accurate assessment of daily occupancy in the PIC service.
- 19. Maps by SHA and PCO illustrate considerable variation in the geographical distribution of the volume of patients receiving paediatric intensive care, the percentage of children invasively ventilated and mortality levels.
- 20. Ninety five percent of children admitted to PICU are discharged alive. This figure has remained unchanged since the last report. For 2004 2006 combined, no individual unit showed any excess risk-adjusted mortality. A clear policy exists within PICANet to help units understand and address the issues that arise, if and when a unit's standardised mortality rate falls outside of the expected norm.
- 21. The 15,745 admissions to pan Thames PICUs during 2004 2006 were made for 11,527 children. Over 77% of these children were admitted on one occasion only.
  1.7% percent of children have five or more admissions, with 0.5% experiencing more than 8 admissions. The level of readmission by diagnostic group is also provided.
- 22. There are a number of work streams operating within pan Thames PIC. These initiatives are specific to pan Thames and reflect regional priorities. They include:
  - pan Thames PICU Health Informatics
  - PICU Peer Review
  - Long Term Ventilation Group
  - The PIC Consortia Workforce Group
  - Payment by Result Road Show (follow-up)

The reader is directed to individual work stream chapters for the authors' conclusions and recommendations. Issues of concern to the authors are also detailed. The views represented in these chapters are those of the authors and do not necessarily reflect the views of PICANet.

Conclusions and recommendations based on this report are outlined in the following chapter.

#### 5 CONCLUSIONS AND RECOMMENDATIONS

Co	nclusions	It is recommended that:
1.	Data from pan Thames Paediatric Intensive Care Audit Network (PICANet) units enhance the monitoring of regional paediatric intensive care (PIC) activity and facilitate service planning.	The pan Thames PICUs continue to collect and submit high quality data to PICANet.
2.	Although substantial improvements have been achieved during the last year in data management, the quality of data collected and the level of data submission in some PICUs has scope for improvement.	Each provider unit has two named individuals trained and responsible for data management.
3.	The NHS Number is a prerequisite for proposed data management developments within the region, including the collection of the Paediatric Critical Care Minimum Data Set (PCC MDS). Paediatric Index of Mortality 2 (PIM2) physiological variables are essential for effective risk modelling of admissions.	The pan Thames Health Informatics Group (PHiG) takes a lead in monitoring and promoting improvements in data quality across regional PICUs.
4.	A target NHS Number recording level of 95% is recommended by Connecting for Health and PICANet. Much of this data is already available within the local Trust Patient Administration Systems (PAS).	All designated PICUs aim to achieve at least 80% NHS Number recording for their admissions in 2008.
5.	New variables are now being introduced into the PICANet dataset (e.g. PCC MDS, GP Practice Code). These data items are to be aggregated from a number of systems for export to PICANet.	The primary organisational electronic system for the collection of demographic data ought to be the Trust Patient Administration System (PAS), supported by the unit's clinical information system for clinical data.
6.	The founding principle of The National Programme for Information Technology (NPfIT; Connecting for Health) is that data should only be collected <i>once</i> within an organisation.	All pan Thames units with more than 300 admissions per year establish a PAS connection to collect their demographic PICANet dataset.
7.	All NHS commissioning arrangements are based on general practitioner (GP) location which, in turn, defines the host Primary Care Trust. Current PICANet reporting and mapping are based on Strategic Health Authorities which, in turn, are based on patients' residential postcodes. To address this disparity, the GP Practice Code variable can now be recorded on the PICANet PCC MDS dataset.	All PICUs populate and validate the GP Practice Code variable, in order that future reports are in line with commissioning needs.

8.	The Department of Health specified the requirement for 30 day follow-up data on PICU patients. The pan Thames PICU Consortium has endorsed the need for this data; however, this data item continues to be poorly recorded in the pan Thames region.	Clinical leads and commissioners review and decide on how to implement the collection of 30 day follow-up data.
9.	Data specific to pan Thames on the number of children attending adult intensive care units are not available.	The Intensive Care National Audit and Research Centre (ICNARC) should be encouraged to provide data to PICANet, permitting calculation of risk- adjusted outcome for children attending adult ICUs in pan Thames.
10.	The volume of PICANet data is set to increase with the introduction of the PCC MDS. However, gaps in information continue to exist, most notably in areas such as High Dependency Care and Long Term Ventilation patient management.	PICANet, PHiG and local work-streams work together to identify and fill information gaps.
11.	PICU clinical systems are hugely varied in their level of sophistication across pan Thames. Substantial variations in technological and data management developments are also noted. Much of the developments are insular, with little multi-centre collaboration.	A framework to encourage and support collaborative, multi-centre informatics developments is explored and established through PHiG.
12.	The pan Thames PICU Consortium has embarked on a programme of work, which builds on the Payment by Results agenda to enhance PICU commissioning. The work will be based on audit and quality management principles and will include the development of a framework to establish and monitor clinical outcome measures.	Existing links between the clinical community, PICANet, professional organisations such as the Paediatric Intensive Care Society and its Specialist Groups are strengthened and new links with collaborators established.
13.	This is the first PICANet report in which the various pan Thames PICU work-streams have reported their activities and future plans.	Future reports provide a framework for these work-streams to summarise and disseminate their activities, become familiar with each other's agendas and work together in meeting objectives. These reports will allow for the documentation and monitoring of developments.

#### 6 ORIENTATING YOURSELF AROUND THE REPORT

This report is divided into two main sections:

- 1) Reporting of the Pan Thames PICANet data (January 2004 December 2006)
- 2) Reports of regional PICU work streams

#### 6.1 A report of the PICANet data (January 2004 - December 2006) for the pan Thames region (Chapters 8 to 17)

An overview of the data contained in the tables and figures is provided in this section. The hyperlinks should be used to view the relevant data sections in the appendix.

In the web document, the hyperlink will take you to an Excel spreadsheet that contains links to all the tables and figures in the section. The data, diagrams and graphs are freely available for you to download.

The PICANet dataset is dynamic as units continually submit new data. This means that overall figures for 2004 and 2005 may have changed since the publication of the previous pan Thames report. The data in this report are those supplied to PICANet up to March  $2^{nd}$ , 2007 for the reporting period January 2004 to December 2006.

Readers of this report are directed to the <u>PICANet National Report 2004 - 2006</u><sup>i</sup> which gives a picture of national PIC activity and provides national benchmarks for comparison. To facilitate cross referencing, the pan Thames report follows the same structure as the national PICANet Report.

#### 6.2 Report of regional PICU work streams (Chapters 18 to 22)

This section describes the various work streams being undertaken to develop the organisational, commissioning and informatics elements of PIC services in pan Thames. Access to further material is provided through web links.

#### 6.3 References

<sup>&</sup>lt;sup>i</sup> Paediatric Intensive Care Audit Network National Report 2004 - 2006 (published June 2007) Universities of Leeds and Leicester ISBN 978 0 85316 264 3

#### 7 AIMS

This report aims to:

- Provide descriptive information, tailored to the local needs of PICU clinical care teams, healthcare planners and commissioners.
- Allow comparison of PICU activity within the pan Thames region.
- Identify issues associated with data management and data quality.
- Provide an evidence base of local outcomes, processes and structures for future planning, practice, research and interventions.
- Update the readership on regional PICU activities and developments relevant to service commissioning and information management.
- Focus discussion on the needs, structure and direction of future regional reports and activities in this field.

#### 7.1 Aims and objectives of PICANet, the pan Thames Commissioning Consortium and Pan Thames Health Informatics Group (PHiG)

Please follow the links for further information on the groups.

- 1) **<u>PICANet</u>** remains committed to achieving its principle objectives:
  - To identify best practice.
  - To monitor supply and demand.
  - To monitor and review outcomes of treatment episodes.
  - To facilitate strategic healthcare planning and quantify resource requirements.
  - To study the epidemiology of critical illness in children.
- The <u>pan Thames Commissioning Consortium</u> is dedicated to the regional aims and objectives of the consortium as defined in the <u>pan Thames PICU Consortium</u> <u>Health Delivery Plan 2005/6 – 2007/8</u>. Pan Thames Commissioning Consortium objectives are:
  - To ensure all children have equitable access to PICU facilities that meet the 'Framework for the Future' standards of care - regardless of where they live.
  - To support clinical staff in developing the most effective outcomes through the development of managed clinical networks.
  - To provide a stable commissioning environment within which rational planning decisions can be made and robustly project-managed.
  - Deliver sustained improvement in service delivery in terms of quality, efficiency and outcomes

- To stabilise the overall effect of potentially volatile activity fluctuations on PCTs and providers alike
- To ensure best value in terms of health gain and value for money
- 3) <u>The pan Thames Health Informatics Group's</u> goals are to develop and evaluate systems for the collation, analysis and interpretation of operational and clinical / audit information relating to the provision of paediatric intensive care (including inpatient and dedicated ambulance retrieval services) to the population within the pan Thames region. Full details of the programme of work, meetings, presentations are available from the pan Thames PICU website, health informatics (you will need to register with an NHS email address).

#### 8 THE PICANET DATASET

During the course of the last 2 years, the PICANet dataset has undergone considerable change and development. Since these changes were applied to all PICANet units across the country, readers are directed to the PICANet National Report 2004 – 2006 for a full description of changes.

The dataset Chapter of the PICANet National Report covers the following topics:

- Development and description of the current dataset
- The Paediatric Critical Care Minimum Dataset
- Retrievals dataset
- Data collection and validation
- Clinical coding
- Confidentiality
- Data transmission

Please use the link below to access the dataset Chapter of the PICANet National Report (2004 - 2006).

http://www.picanet.org.uk/Documents/General/Annual\_Report\_2007/PICANet%20Nationa 1%20Report%202004%20-%202006.htm#C8

The PICANet proforma is provided in Appendix D, while details of information requested by pan Thames from PICANet, based on this dataset, are outlined in Appendix E.

#### 9 DATASET DEFINITIONS FOR THIS REPORT

This report covers the three year period, January 2004 - December 2006. During this time, there were 15,969 admissions to pan Thames PICUs. This represents 37.0% (15,969/43,140) of all admissions registered on the PICANet database from 29 units across the UK for the same period.

Nine pan Thames NHS trusts contributed to this report. Barts and the London Children's Hospital's new paediatric critical care unit became operational outside the reporting period and is not included in this report.

The 9 pan Thames PIC units are identified with agreement from all participating trusts' Chief Executives.

The validated postcode of the home address of children admitted to PICU was linked to the Strategic Health Authority (SHA) or Primary Care Organisation (PCO) via the National Statistics Postcode Directory (NSPD) (<u>http://www.statistics.gov.uk/geography/nspd.asp</u>).

Regional boundary changes have occurred during the period of this report (Figure DS 1). Consequentially, data have been presented with 2004 and 2006 boundary definitions. More granular maps of PCO boundaries are available in Figures 10a and 10b.

# Figure DS1 The pan Thames geographical areas as defined by Strategic Health Authorities showing 2004 and 2006 boundaries



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- 1) The report is primarily concerned with admissions aged 0 15 years, of which there were a total of 15,745 over the 3 year period. There were 224 admissions aged 16 years and above.
- 2) Unless stated otherwise, the proportions in tables throughout the report are row percentages, except in the total column where they are column percentages.
- 3) The term 'unknown' includes cases where the units have specifically recorded 'not known' and also cases where a required value has been left blank.

#### 10 ADMISSIONS DATA

The number of admissions by month and the PICANet data quality index are provided in Appendices F and G.

**Tables 1 to 9** detail admission numbers by age, sex, month and year of admission, NHS trust and diagnostic group.

During the period January 2004 to December 2006, there were 42,221 admissions to all 29 participating PICANet PICUs (set across 24 trusts and the Royal Hospital for Sick Children, Edinburgh) under the age of 16 years.

15,745 admissions were to pan Thames PICUs. This represents 37% of all admissions recorded by PICANet. The distribution and characteristics of these patients are detailed below.

Nationally, 2.1% (919/43,140) of all admissions to PICUs were over the age of 16 years. Within pan Thames, 1.4% (225/15,970) of patients attending its PICUs are over 16 years of age.

The primary diagnosis for admissions has been categorised into 13 diagnostic groups to enable a simple comparison between NHS trusts. The classification is based on Clinical Terms Version 3 hierarchies. The groups are mutually exclusive:

- Infection excludes any respiratory or gastrointestinal infection but includes meningitis
- Neurological disorders include neurovascular complications
- Oncology includes neuro-oncology (brain tumours)
- Other includes those diagnoses not covered by the other 12 groups.

Details of the diagnostic group classifications are available from **PICANet**.

Clinical Terms background and structure are available from the <u>Connecting for Health</u> web site dedicated to clinical coding.

#### 10.1 Admissions by Strategic Health Authority (SHA) / Health Board (HB)

**Tables 10a and 10b** provide the numbers of admissions by SHA / HB, prior to and following the July 2006 NHS reorganisation. These tables present column percentages. For all PICANet admissions, 97.5% had addresses that were validated. The remaining 2.5% included foreign addresses (n=1045, 2.3%) and missing addresses (0.2%). Figures 10a and 10b identify the SHA / HB boundaries pre- and post-reorganisation together with their names. In pan Thames, 730 patients were recorded as non UK residents. This represents 70% (730/1045) of all non UK resident children recorded in the PICANet database. **Table 10c** shows pan Thames, non pan Thames and non UK status based on postal address by year, 2004 – 2006.

#### 10.2 Admissions by mortality risk category

**Table 11** gives numbers of admissions by mortality risk group by NHS trust. The expected probability of mortality was estimated using the paediatric index of mortality (PIM)<sup>1</sup>, using recalibrated coefficients supplied by UK PICOS<sup>2</sup>. The categorization into <1%, 1-<5%, 5%-<15%, 15-<30% and 30% plus expected probability of mortality reflects those used by the <u>Australian and New Zealand Intensive Care Society (ANZPICS)<sup>3</sup></u>.

#### 10.3 Admissions by admission type

Tables 12 – 15 present numbers by admission type (planned and non planned)

The following definitions for type of admission are used:

- An admission that is *'planned following surgery'* is one that the unit is aware of before the surgery begins and one that could have been delayed for 24 hours without risk (e.g. spinal surgery).
- An admission that is *'unplanned following surgery'* is one that the unit was not aware of before surgery began and one that could not have been delayed without risk (e.g. bleeding tonsillectomy).
- A *'planned other'* admission is any other planned admission that is not an emergency (e.g. liver biopsy).
- An *'unplanned other'* admission is one that the unit was not expecting and is therefore an emergency admission (e.g. status epilepticus).

NB: Surgery is defined as undergoing all or part of a procedure or anaesthesia for a procedure in an operating theatre or anaesthetic room. Patients admitted from the operating theatre where surgery is not the main reason for admission (e.g. a patient with a head injury who is admitted from theatre after insertion of an ICP monitor) are not included here. In such patients the main reason for admission is head injury and thus the admission type would be 'unplanned - other'.

#### 10.4 Admissions by primary diagnostic group

**Tables 16 – 25** present a breakdown of admissions by diagnostic group and primary reason for admission.

The level of coding precision varies across units but according to their needs. This allows reliable aggregation of data only at the diagnostic group level for regional purposes.

#### 10.5 References

- 1) Shann F, Pearson G, Slater A, Wilkinson K, Paediatric index of mortality (PIM): a mortality prediction model for children in intensive care. Intensive Care Med 1997; 23:201-207.
- 2) Brady AR, Harrison D, Black S, Jones S, Rowan K, Pearson G, Ratcliffe J, Parry GJ, on behalf of the UK PICOS Study Group. Assessment and Optimization of Mortality Prediction Tools for Admissions to Pediatric Intensive Care in the United Kingdom. Pediatrics 2006; 117: 733-742.
- Australian and New Zealand Intensive Care Society. Report of the Australian and New Zealand Paediatric Intensive Care Registry 2005. ISBN: 1876980184 [Online] [Accessed 23/02/2007] Available from the World Wide Web at <a href="http://www.anzics.com.au/uploads/2005ANZPICRReport.pdf">http://www.anzics.com.au/uploads/2005ANZPICRReport.pdf</a>>.

#### 11 RETRIEVAL DATA

Tables 26-28 present data on patient retrievals.

Data are collected on whether or not a child was retrieved or transferred into the PICU. The following definitions are used:

- **'Own team'** identifies that your own team collected the child from the referring hospital.
- 'Other specialist team (PICU)' identifies that another PICU retrieval team transferred the child to your unit.
- 'Other specialist team (non PICU)' identifies that another transport team, not a PICU team (e.g. Accident and Emergency Department (A&E), theatre teams or neonatal teams), transferred the child to your unit.
- *'Non-specialist team'* identifies that a non-PICU, non-specialist team transported the child to your unit (e.g. ward staff).

Within London, there are two specific transport teams, the <u>Children's Acute Transfer</u> <u>Service (CATS)</u> and the South Thames Retrieval Team. CATS is based at Great Ormond Street Hospital (GOSH), and is staffed separately from the intensive care units at GOSH. For the purposes of recording data for PICANet, any child retrieved by CATS into a PICU at GOSH is recorded as 'other specialist team (PICU)'. The South Thames retrieval team is based at Evelina Children's Hospital and is staffed by doctors and nurses from within the PICU. For PICANet data collection purposes, any child retrieved by the South Thames team into the PICU at Evelina Children's Hospital is classed as 'own team'.

#### 12 INTERVENTION DATA

Tables 29-31 relate to specific intervention procedures carried out on PICU.

Some specialist services such as extra corporeal membrane oxygenation (ECMO) or left ventricular assist device to support cardiac function (LVAD) are only available in a PICU where invasive cardiac procedures are routinely performed.

*Length of ventilation* was calculated in whole days. Any ventilation during the period midnight to midnight was counted as one complete day of ventilation (e.g. a child intubated and ventilated at 23.45 on 7 March, and extubated at 02.30 on 8 March, would count as two days of ventilation). The proportion of children invasively ventilated can be used as a very rough proxy for level of care.

#### 13 BED ACTIVITY AND LENGTH OF STAY

Tables 32 – 40 present data on total bed days delivered and length of stay.

A bed is counted as occupied if a child was present on a unit for any part of a day. The total number of bed days delivered is calculated as the sum of children receiving intensive care in a PICU each day.

Bed activity is described in terms of the total number of bed days delivered using summary statistics (median and inter-quartile range (IQR)) on the number of children occupying a bed on any day, aggregated by year and month or trust and length of stay. Median daily bed activity by month and year, and by NHS trust, is plotted using a box and whisker graph. This type of graph indicates the median by a line within the coloured box, the ends of which give the IQR. The 'whiskers' indicate values beyond the IQRs, although extreme outside values are not plotted. Children admitted prior to the report period, but discharged during it, are counted from 00:00 on 1 January 2004 until their discharge (or until 24:00 on 31 December 2006 if not discharged). Children admitted during the report period but discharged in 2007 (or who are still on the PICU) are counted from their admission date until 24:00 on 31 December 2006.

The maximum number of beds in each NHS trust is based on a survey carried out in 2005 and reconfirmed with PICU lead clinicians in 2006. These figures provide a very crude denominator to estimate overall 'occupancy', by comparing bed activity with available beds; they do not take account of periods when individual beds (or even units) are closed.

**Tables 34-35** and their associated figures present summary data by year and month and by trust and year on a 'bed census': the number of children present in a PICU bed at 10 minutes past midnight.

**Tables 36 – 37** present data described as 'bed activity' by month and by trust, where a bed is counted as occupied if a child was present on a unit for any part of a day. This inevitably results in higher figures than the bed census data, as a bed may have more than one child occupying it in any one day.

**Tables 38-39** present summary data on length of stay by trust and age group and trust and diagnostic group.

**Table 40** groups the number of admissions by length of stay by trust, calculated to the minute in categories ranging from less than 1 hour to over 1 week.

#### 14 OUTCOME DATA

Tables 41 – 55 detail mortality levels and follow-up outcome of regional patients.

Paediatric intensive care unit mortality data are described in this chapter in terms of crude mortality by age and sex for England, Wales and Edinburgh combined, and by trust, using unadjusted and risk-adjusted standardised mortality ratios (SMRs).

Unadjusted SMRs are calculated by dividing the expected number of deaths based on the national data by the observed number of deaths in each trust. Risk-adjusted SMRs are calculated by dividing the expected number of deaths (predicted by PIM<sup>ii</sup>) by the observed number of deaths in each trust. The original version of PIM was used, with revised coefficients supplied by UK PICOS<sup>iii</sup> that provide a calibration of the model based on more recent data. We have also produced SMR using PIM 2<sup>iv</sup> for 2006.

PICU mortality funnel plots are presented for 2004, 2005, 2006 and combined years to provide a visual means of comparing unadjusted and adjusted SMRs between trusts.

The SMRs are plotted on the y-axis against the number of admissions to the trust on the x-axis. Higher mortality rates are represented by points plotted above the line of unity, with those appearing outside the upper control limit indicating an unusually high mortality. Lower mortality rates are represented by points plotted below the line of unity and those falling below the lower control limit indicate unusually low mortality. The funnel plots are drawn in such a way, that there is an approximately 5% chance of a unit falling outside the control limits if the distribution of SMRs is random<sup>v</sup>.

The PICANet policy for units falling outside the control limits are detailed in Appendix H.

**Figures 50c – 50d** show risk adjusted SMR by SHA, pre- and post-July 2006 reorganisation.

Risk-adjusted SMRs by SHA have been produced by allocating children to the SHA in which they were living, based on their address at admission. These ratios have then been expressed as a percentage and mapped to illustrate the range of variability in SMRs between SHAs. It should be noted that these ratios have not been subject to any spatial smoothing and confidence intervals are relatively wide in areas of low population.

**Tables 51 – 55** Describe the follow-up of regional PICU admissions by age, sex and mortality.

#### 14.1 References

<sup>&</sup>lt;sup>ii</sup> Shann F, Pearson G, Slater A, Wilkinson K, Paediatric index of mortality (PIM): a mortality prediction model for children in intensive care. Intensive Care Med 1997; 23:201-207

<sup>&</sup>lt;sup>III</sup> Brady AR, Harrison D, Black S, Jones S, Rowan K, Pearson G, Ratcliffe J, Parry GJ, on behalf of the UK PICOS Study Group. Assessment and Optimization of Mortality Prediction Tools for Admissions to Pediatric Intensive Care in the United Kingdom. Pediatrics 2006; 117: 733-742.

<sup>&</sup>lt;sup>iv</sup> Shann F, Slater A, Pearson G. PIM 2: a revised version of the Paediatric Index of mortality. Intensive Care Med 2003; 29:278-285

<sup>&</sup>lt;sup>v</sup> Spiegelhalter D. Funnel plots for institutional comparison. Quality and Safety in Health Care 2002;11(4):390-391.

#### 15 DATA ON INDIVIDUAL CHILDREN

**Tables 56 – 59** describe readmission characteristics of regional patients, including variation by diagnostic groups.

In this chapter, the unit of analysis is the patient, as opposed to the admission. Patients' linking is conducted primarily by NHS Number. Other variables used in linking patients are names, date of birth and sex, post code, gestational age and case numbers.

This chapter describes the PICU activity concerning individual patients and their patterns of care within the PICUs and gives a picture of the burden of disease on individual children, as well as its impact on service delivery.

Special attention is given to re-admissions in relation to age, diagnostic group and NHS trust. In the pan Thames region, there were 15,745 admissions for children under the age of 15 years during 2004 – 2006. These admissions were made by 11,527 children.

#### 16 PREVALENCE FOR ADMISSION

**Tables 60 – 61b** present age-specific prevalence for pan Thames PICU admission (crude and standardised).

Figures 61a – 61c map regional prevalence (crude and standardised).

Age and sex-specific prevalence for admission to PICUs have been calculated with 95% Poisson confidence intervals, using population counts from the 2001 Census<sup>vi</sup>.

Children were allocated to an SHA / HB using their residential address at admission. Patients' home addresses were validated using the All Fields Directory (AFD) address validation software to obtain a correct postcode<sup>vii</sup>. Using the National Statistics Postcode Directory (<u>http://www.statistics.gov.uk/geography/nspd.asp</u>), the postcodes were then linked to SHA / HB.

We have also presented age-sex standardised prevalence by 2006 primary care organisation (PCO) in **Figure 61c**.

#### 16.1 References

<sup>&</sup>lt;sup>vi</sup> Office for National Statistics. 2001 Census : Census Area Statistics (England and Wales) [computer file]. ESRC/JISC Census Programme, Census Dissemination Unit, MIMAS (University of Manchester)

<sup>&</sup>lt;sup>vii</sup> AFD Refiner Q.2/07. AFD Software Ltd, Lough House, Approach Road, Ramsey, ISLE OF MAN, IM8 1RG, UK, 2007.

#### 17 DATA QUALITY

Earlier pan Thames PICANet reports have repeatedly emphasised the need for improvements in the quality of data collected and submitted by pan Thames units. Over the last 3 years, units have made considerable improvements to their data management processes. This chapter details the current quality of regional PICANet data and the improvements that have been achieved. Attention is also drawn to data items that continue to require attention.

Full details of the processes through which data quality is controlled and assured in PICANet are available from <u>the data quality chapter</u> of the PICANet National Report 2004 – 2006.

The completeness level for all data items collected by pan Thames units is given in **Table DQ1**, showing 93.9% completeness of the data items. **Table DQ2** details the completeness of the data by month and by year for the last 3 years, while **Table DQ3** provides a breakdown by individual unit for the combined 3 years.

It is found that the non pan Thames PICANet dataset contained 4.4% of exception values (i.e. data collected as 'not recorded' or 'not known') while pan Thames units have 5.2% of such data. ). 0.4% and 0.8% variables were left blank in the respective groups of units.
Fable DQ1 Data con	npleteness in p	oan Thames PICUs
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			Comp	lete					Incom	olete			
FIELD	Eligible	Val	id	Excep	tions	Tot	al	Inval	id	Bla	nk	Tot	al
		n	%	n	%	n	%	n	%	n	%	n	%
ADDATE	15969	15969	(100.0)	0	(0.0)	15969	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
ADDRESS1	15969	15951	(99.9)	0	(0.0)	15951	(99.9)	0	(0.0)	18	(0.1)	18	(0.1)
ADNO	15969	15968	(100.0)	0	(0.0)	15968	(100.0)	0	(0.0)	1	(0.0)	1	(0.0)
ADTIME	15969	15968	(100.0)	0	(0.0)	15968	(100.0)	0	(0.0)	1	(0.0)	1	(0.0)
ADTYPE	15969	15937	(99.8)	32	(0.2)	15969	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
APDIAG	15969	15969	(100.0)	0	(0.0)	15969	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
BASEEXCESS	12035	10094	(83.9)	1941	(16.1)	12035	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
BGFIRSTHR	8760	8729	(99.6)	31	(0.4)	8760	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
BPSYS	15969	13789	(86.3)	2178	(13.6)	15967	(100.0)	0	(0.0)	2	(0.0)	2	(0.0)
CAREAREAAD	15/62	14606	(92.7)	1155	(7.3)	15/61	(100.0)	0	(0.0)	1	(0.0)	1	(0.0)
	15969	15968	(100.0)	0	(0.0)	15968	(100.0)	0	(0.0)	1	(0.0)	1	(0.0)
	3/3	480	(84.5)	476	(15.5)	15161	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
DOP	15101	14000	(90.9)	4/0	(3.1)	15101	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
DOBEST	15963	15963	(100.0)	0	(0.0)	15903	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
	885	878	(100.0)	0	(0.0)	878	(100.0)	0	(0.0)	7	(0.0)	7	(0.0)
FCMO	15969	15887	(99.2)	81	(0.0)	15968	(100.0)	0	(0.0)	1	(0.0)	1	(0.0)
ETHNIC	15969	15969	(100.0)	0	(0.0)	15969	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
	15969	15962	(100.0)	0	(0.0)	15962	(100.0)	0	(0.0)	7	(0.0)	7	(0.0)
FIO2	12035	9737	(80.9)	2151	(17.9)	11888	(98.8)	0	(0.0)	147	(1.2)	147	(1.2)
FIRSTNAME	15969	15961	(99.9)	0	(0.0)	15961	(99.9)	0	(0.0)	8	(0.1)	8	(0.1)
FU30DISSTATUS	14449	2616	(18.1)	11805	(81.7)	14421	(99.8)	0	(0.0)	28	(0.2)	28	(0.2)
FU30LOCATION	2648	1896	(71.6)	751	(28.4)	2647	(100.0)	0	(0.0)	1	(0.0)	1	(0.0)
FU30LOCHOSP	190	186	(97.9)	4	(2.1)	190	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
GEST	9544	6817	(71.4)	2725	(28.6)	9542	(100.0)	0	(0.0)	2	(0.0)	2	(0.0)
HEADBOX	12035	11099	(92.2)	886	(7.4)	11985	(99.6)	0	(0.0)	50	(0.4)	50	(0.4)
ICPDEVICE	8760	8734	(99.7)	25	(0.3)	8759	(100.0)	0	(0.0)	1	(0.0)	1	(0.0)
INTTRACHEOSTOMY	15969	15920	(99.7)	48	(0.3)	15968	(100.0)	0	(0.0)	1	(0.0)	1	(0.0)
INTUBATION	12035	11744	(97.6)	243	(2.0)	11987	(99.6)	0	(0.0)	48	(0.4)	48	(0.4)
INTUBEVER	15969	15969	(100.0)	0	(0.0)	15969	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
INVVENT	15965	15930	(99.8)	34	(0.2)	15964	(100.0)	0	(0.0)	1	(0.0)	1	(0.0)
INVVENTDAY	10907	10858	(99.6)	49	(0.4)	10907	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
LVAD	15969	15886	(99.5)	82	(0.5)	15968	(100.0)	0	(0.0)	1	(0.0)	1	(0.0)
MECHVENT	15969	15731	(98.5)	237	(1.5)	15968	(100.0)	0	(0.0)	1	(0.0)	1	(0.0)
MEDHISTEVID	15969	15516	(97.2)	451	(2.8)	15967	(100.0)	0	(0.0)	2	(0.0)	2	(0.0)
MULT	15969	13088	(82.0)	2879	(18.0)	15967	(100.0)	0	(0.0)	2	(0.0)	2	(0.0)
NHSNO	15969	9474	(59.3)	756	(4.7)	10230	(64.1)	0	(0.0)	5739	(35.9)	5739	(35.9)
NONINVVENT	15969	15855	(99.3)	113	(0.7)	15968	(100.0)	0	(0.0)	1	(0.0)	1	(0.0)
NONINVVENTDAY	2281	2262	(99.2)	19	(0.8)	2281	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
PAO2	12035	8950	(74.4)	3083	(25.6)	12033	(100.0)	0	(0.0)	2	(0.0)	2	(0.0)
POSTCODE	15969	15937	(99.8)	0	(0.0)	15937	(99.8)	0	(0.0)	32	(0.2)	32	(0.2)
PREVICUAD	15969	15787	(98.9)	182	(1.1)	15969	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
PRIMDIAG	15969	15958	(99.9)	0	(0.0)	15958	(99.9)	2	(0.0)	9	(0.1)	11	(0.1)
PRIMREASON	8760	8238	(94.0)	520	(5.9)	8758	(100.0)	0	(0.0)	2	(0.0)	2	(0.0)
PUPREACT	15969	14196	(88.9)	1773	(11.1)	15969	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
RENALSUPPORT	8760	8745	(99.8)	14	(0.2)	8759	(100.0)	0	(0.0)	1	(0.0)	1	(0.0)
RETRIEVAL	15969	15851	(99.3)	117	(0.7)	15968	(100.0)	0	(0.0)	1	(0.0)	1	(0.0)
RETRIEVALBY	6380	6038	(94.6)	319	(5.0)	6357	(99.6)	0	(0.0)	23	(0.4)	23	(0.4)
SEX	15969	15925	(99.7)	37	(0.2)	15962	(100.0)	7	(0.0)	0	(0.0)	7	(0.0)
SOURCEAD	15969	15931	(99.8)	38	(0.2)	15969	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
TIMEDTH	804	804	(100.0)	0	(0.0)	804	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
UNITDISDATE	15965	15963	(100.0)	0	(0.0)	15963	(100.0)	0	(0.0)	2	(0.0)	2	(0.0)
UNITDISDEST	15161	14846	(97.9)	314	(2.1)	15160	(100.0)	0	(0.0)	1	(0.0)	1	(0.0)
UNITDISDESTHOSP	14600	11122	(76.2)	3478	(23.8)	14600	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)
UNITDISSTATUS	15969	15965	(100.0)	0	(0.0)	15965	(100.0)	0	(0.0)	4	(0.0)	4	(0.0)
	15965	15962	(100.0)	0	(0.0)	15962	(100.0)	0	(0.0)	3	(0.0)	3	(0.0)
VASOACTIVE	15969	15909	(99.6)	59	(0.4)	15968	(100.0)	0	(0.0)	1	(0.0)	1	(0.0)
Total	747490	702147	(93.9)	39181	(5.2)	741328	(99.2)	9	(0.0)	6153	(0.8)	6162	(0.8)

## Figure DQ1 Percentage of exception or blank values in the PICANet dataset



Note: A full description of variables is provided in the PICANet Data Definitions Manual. (Exception = 'not recorded' or 'not known').

**Figure DQ1** highlights twelve data items found to have the largest number of exception or blank values within the pan Thames dataset. The recording levels in non pan Thames units are provided for comparison. A number of these data items are used in the calculation of the Paediatric Index of Mortality (PIM) 2. PICANet is investigating the impact of missing data on this risk adjustment index.

Thirty-day follow-up status is a standard, but somewhat crude, patient care outcome measure used across the NHS<sup>viii</sup>. The distribution of 30 day follow-up data collection across pan Thames units is detailed in **Figure DQ2** below. In PICANet as a whole, the 30 day follow-up data is 99% complete; however, 50% of this data is recorded as 'not known'. A closer inspection of the recording levels of this variable within non pan Thames units and pan Thames units shows that 31.3% and 81.2% of admissions, respectively, do not have this data recorded - a considerable difference that needs addressing.



## Figure DQ2 Data completeness for 30-day follow-up information

								Comple	etion					
				Comp	lete					Incom	plete			
Year	Month	Eligible	Vali	d	Except	tions	Tota	al	Inval	id	Blai	nk	Tota	ıl
		-	n	%	n	%	n	%	n	%	n	%	n	%
2004	1	20338	18945	(93.2)	1119	(5.5)	20064	(98.7)	4	(0.0)	270	(1.3)	274	(1.3)
	2	19574	18152	(92.7)	1194	(6.1)	19346	(98.8)	0	(0.0)	228	(1.2)	228	(1.2)
	3	22600	21046	(93.1)	1295	(5.7)	22341	(98.9)	0	(0.0)	259	(1.1)	259	(1.1)
	4	19260	17985	(93.4)	1073	(5.6)	19058	(99.0)	1	(0.0)	201	(1.0)	202	(1.0)
	5	20481	19108	(93.3)	1158	(5.7)	20266	(99.0)	1	(0.0)	214	(1.0)	215	(1.0)
	6	19867	18635	(93.8)	1015	(5.1)	19650	(98.9)	0	(0.0)	217	(1.1)	217	(1.1)
	7	20432	19063	(93.3)	1154	(5.6)	20217	(98.9)	0	(0.0)	215	(1.1)	215	(1.1)
	8	18334	17078	(93.1)	1047	(5.7)	18125	(98.9)	0	(0.0)	209	(1.1)	209	(1.1)
	9	19752	18340	(92.9)	1170	(5.9)	19510	(98.8)	0	(0.0)	242	(1.2)	242	(1.2)
	10	20004	18525	(92.6)	1244	(6.2)	19769	(98.8)	0	(0.0)	235	(1.2)	235	(1.2)
	11	22127	20581	(93.0)	1268	(5.7)	21849	(98.7)	1	(0.0)	277	(1.3)	278	(1.3)
	12	21863	20376	(93.2)	1269	(5.8)	21645	(99.0)	0	(0.0)	218	(1.0)	218	(1.0)
2004	Total	244632	227834	(93.1)	14006	(5.7)	241840	(98.9)	7	(0.0)	2785	(1.1)	2792	(1.1)
								-						
2005	1	21332	19867	(93.1)	1237	(5.8)	21104	(98.9)	0	(0.0)	228	(1.1)	228	(1.1)
	2	17926	16682	(93.1)	1084	(6.0)	17766	(99.1)	0	(0.0)	160	(0.9)	160	(0.9)
	3	20513	19058	(92.9)	1286	(6.3)	20344	(99.2)	0	(0.0)	169	(0.8)	169	(0.8)
	4	18830	17517	(93.0)	1148	(6.1)	18665	(99.1)	0	(0.0)	165	(0.9)	165	(0.9)
	5	19386	18054	(93.1)	1198	(6.2)	19252	(99.3)	0	(0.0)	134	(0.7)	134	(0.7)
	6	21029	19674	(93.6)	1199	(5.7)	20873	(99.3)	0	(0.0)	156	(0.7)	156	(0.7)
	7	23463	21915	(93.4)	1360	(5.8)	23275	(99.2)	0	(0.0)	188	(0.8)	188	(0.8)
	8	19811	18514	(93.5)	1140	(5.8)	19654	(99.2)	0	(0.0)	157	(0.8)	157	(0.8)
	9	19166	17949	(93.7)	1078	(5.6)	19027	(99.3)	0	(0.0)	139	(0.7)	139	(0.7)
	10	19695	18542	(94.1)	1022	(5.2)	19564	(99.3)	0	(0.0)	131	(0.7)	131	(0.7)
	11	22632	21387	(94.5)	1094	(4.8)	22481	(99.3)	0	(0.0)	151	(0.7)	151	(0.7)
	12	23105	21830	(94.5)	1143	(4.9)	22973	(99.4)	0	(0.0)	132	(0.6)	132	(0.6)
2005	Total	246888	230989	(93.6)	13989	(5.7)	244978	(99.2)	0	(0.0)	1910	(0.8)	1910	(0.8)
		-												
2006	1	21953	20937	(95.4)	918	(4.2)	21855	(99.6)	0	(0.0)	98	(0.4)	98	(0.4)
	2	21432	20399	(95.2)	944	(4.4)	21343	(99.6)	0	(0.0)	89	(0.4)	89	(0.4)
	3	21888	20871	(95.4)	921	(4.2)	21792	(99.6)	0	(0.0)	96	(0.4)	96	(0.4)
	4	19929	18973	(95.2)	838	(4.2)	19811	(99.4)	1	(0.0)	117	(0.6)	118	(0.6)
	5	22061	21002	(95.2)	946	(4.3)	21948	(99.5)	0	(0.0)	113	(0.5)	113	(0.5)
	6	20527	19512	(95.1)	902	(4.4)	20414	(99.4)	0	(0.0)	113	(0.6)	113	(0.6)
	7	21375	20335	(95.1)	920	(4.3)	21255	(99.4)	0	(0.0)	120	(0.6)	120	(0.6)
	8	20939	19913	(95.1)	901	(4.3)	20814	(99.4)	0	(0.0)	125	(0.6)	125	(0.6)
	9	20803	19795	(95.2)	088	(4.2)	20675	(99.4)	0	(0.0)	128	(0.6)	128	(0.6)
	10	21202	20106	(94.8)	981	(4.6)	21087	(99.5)	0	(0.0)	115	(0.5)	115	(0.5)
	11	22028	20902	(94.9)	967	(4.4)	21869	(99.3)	0	(0.0)	159	(0.7)	159	(0.7)
	12	21833	20579	(94.3)	1068	(4.9)	21647	(99.1)	1	(0.0)	185	(0.8)	186	(0.9)
2006	Iotal	255970	243324	(95.1)	11186	(4.4)	254510	(99.4)	2	(0.0)	1458	(0.6)	1460	(0.6)
-		747466	7004 /7	(00.0)	00404	(5.6)	744000	(00.0)		(0.0)	0450	(0.0)	0400	(0.0)
rotal		747490	702147	(93.9)	39181	(5.2)	741328	(99.2)	9	(0.0)	6153	(0.8)	6162	(0.8)

## Table DQ2 Data completeness by year (all variables)

## Table DQ3 Data completeness by PICU for 3 year period

			Comp	lete					Incom	plete			
SITEID	Eligible	Vali	d	Excep	tions	Tota	al	Inva	id	Blar	ık	Tota	al
		n	%	n	%	n	%	n	%	n	%	n	%
В	34864	32734	(93.9)	1582	(4.5)	34316	(98.4)	0	(0.0)	548	(1.6)	548	(1.6)
Α	60813	53744	(88.4)	6496	(10.7)	60240	(99.1)	0	(0.0)	573	(0.9)	573	(0.9)
E	234799	225582	(96.1)	8123	(3.5)	233705	(99.5)	0	(0.0)	1094	(0.5)	1094	(0.5)
F	159625	151325	(94.8)	7457	(4.7)	158782	(99.5)	9	(0.0)	834	(0.5)	843	(0.5)
н	46003	42288	(91.9)	3130	(6.8)	45418	(98.7)	0	(0.0)	585	(1.3)	585	(1.3)
0	87796	82105	(93.5)	4893	(5.6)	86998	(99.1)	0	(0.0)	798	(0.9)	798	(0.9)
Т	56227	52094	(92.6)	3506	(6.2)	55600	(98.9)	0	(0.0)	627	(1.1)	627	(1.1)
U	55538	51344	(92.4)	3424	(6.2)	54768	(98.6)	0	(0.0)	770	(1.4)	770	(1.4)
J	11825	10931	(92.4)	570	(4.8)	11501	(97.3)	0	(0.0)	324	(2.7)	324	(2.7)
Grand Total	747490	702147	(93.9)	39181	(5.2)	741328	(99.2)	9	(0.0)	6153	(0.8)	6162	(0.8)

viii http://www.performance.doh.gov.uk/nhsperformanceindicators/hlpi2000/c1150s.html

The <u>NHS Number</u> is a unique patient identifier that provides a common link between patient records across the NHS. The number can be used by Trust Patient Administration Systems (PAS) or Patient Information Systems to easily and reliably link to the PICANet dataset.

The distribution of NHS Number recording within the PICANet database for pan Thames units is detailed in **Table DQ4** and in **Figure DQ3** below. 25% of patients within PICANet as a whole do not have NHS Numbers.

Several units in pan Thames have very low or no NHS Number recording in the PICANet database, despite this data being available within their local PAS systems. 41% of pan Thames PICU admissions do not have an NHS Number; the respective figure for non pan Thames units is only 16%.

NHS trust	Eligible	Valid		Blan	k
		n	%	n	%
A	1328	0	(0.0)	572	(43.1)
В	763	404	(52.9)	359	(47.1)
E	4993	3900	(78.1)	1093	(21.9)
F	3411	2667	(78.2)	744	(21.8)
н	979	431	(44.0)	548	(56.0)
J	253	20	(7.9)	233	(92.1)
0	1826	1029	(56.4)	797	(43.6)
Т	1241	614	(49.5)	627	(50.5)
U	1175	409	(34.8)	766	(65.2)
Total	15969	9474	(59.3)	5739	(35.9)

## Table DQ4 Data completeness for NHS Number by NHS trust

In the absence of the NHS Number, it is difficult to definitively link patients with external datasets such as death registrations. PICANet is acquiring a set of hospital admissions data on PICANet patients from the <u>Hospital Episode Statistics data</u>. The linkage between PICANet and HES data is dependent on the presence of an NHS number. Without this number, assessment of long-term follow-up and outcomes will also be difficult and the potential uses of the PICANet data for a variety of linkage studies will be reduced.

In addition, in the absence of the NHS Number, patient follow-up in pan Thames will be poorer than outside the region and so likely to impair the regions ability to provide effective care.





Over the coming year, paediatric intensive care units will be implementing the collection of the Paediatric Critical Care Minimum Dataset (PCCMDS). In pan Thames, many units will rely heavily on their local Patient Administration Systems / Patient Information Systems to collect this data (please refer to Chapter 18). In order for data linkage between the PICANet dataset and the PCCMDS to be effective, NHS Number recording will be crucial.

As the call for data increases, and as it becomes aggregated from different sources for PICANet and local use, high quality data collection and aggregation will become increasingly important. Standards for measuring data quality will have to change as the uses to which the data are put change. The guiding definition for data quality should be 'fitness for purpose'. A collaborative approach to defining what the purpose of the data is and methods for maintaining its 'fitness' need to be defined and implemented. Only then can pan Thames data be on a par with other PICANet regions and contribute to ensuring that the PICANet dataset as a whole remains of the highest quality.

## 18 PAN THAMES PICU HEALTH INFORMATICS

# PHZG

Reflecting societal changes at large, PICU has become extensively computerised during the last decade. This has been paralleled with an ever-increasing demand for clinical and managerial information from PICU to be collected, processed and shared across both PICUs and within the wider healthcare community.

<u>Medical Informatics</u> is the name given to the application of information technology and data processing techniques in healthcare. Also referred to as *health informatics* (HI) and *bioinformatics*, the discipline deals with how we acquire, store, retrieve and use information, data and knowledge. Although primarily concerned with the flow of information, the advancement of computer sciences has entailed that health informatics has become synonymous with the use of computers in healthcare. Health informatics plays a particularly vital role in information-rich specialities such as PICU.

Current developments in PICU informatics are orientated around the immediate needs of the unit. These developments are, however, increasingly required to fit within the regional and national information and communication technology (ICT) context, so that local clinical information can be effectively shared for quality assurance and management of services.

There is an ever-increasing demand for standardised, accurate data being placed upon PICU (e.g. Payment by Results, clinical audits). In order to ensure that developments in PICU health informatics are systematic and coherent, efforts have been made to establish a regional *pan Thames Health Informatics Group (PHiG)* and a *National PICS Health Informatics PICU* commissioning Consortium and the Paediatric Intensive Care Society, respectively. Full details of national health informatics PICU activities are detailed in the <u>PICANet National Report</u>, within the <u>Health Informatics Chapter</u>.

In this Chapter, the following pan Thames health informatics developments are described:

- Pan Thames Paediatric Informatics Group (PH*i*G)
- Regional PICU Clinical Information Systems Survey
- Payment by Results Process Review
- PICU SNOMED Subset development study

#### 18.1 Pan Thames Paediatric Informatics Group

The <u>Terms of Reference</u> of PH*i*G are detailed in Appendix I. The group meets quarterly. It consists of clinicians, managers, academics and commissioners, with regular input from those bodies with a strong interest in the field (i.e. <u>Connecting for Health</u>, the Department of Health lead national health informatics strategic body).

Regional PICU health informatics studies and developments in data collection and management are steered by PH*i*G, with input from collaborators.

All administrative documentations, minutes of meetings and presentations relevant to local and national health informatics activities are available from <u>http://www.picupt.nhs.uk</u>. You will need to register for full access.

## 18.2 Pan Thames PICU Clinical Information Systems Survey

## 18.2.1 Introduction

A review of the clinical information systems (CIS) used in each trust was considered an essential preliminary step in mapping the current ICT systems, their ability to meet the needs of clinical and management services and to identify gaps in ICT facilities.

For this survey, a clinical information system was defined as any data repository that stores patient identifiable information (e.g. name, date of birth, post code, unique patient number) in any media (e.g. database, paper records, digital or film images, videos, audio tapes, medical equipment etc). The survey focused on demographic and clinical data repositories (listed below).

## 18.2.2 Aims and objectives

The *Clinical Information Systems Review* aimed to identify the availability, use and satisfaction with the breadth of clinical information systems being used across Pan Thames PICU sites. The results of the review will inform the pan Thames Trusts and the wider PICU community in their preparation for, and implementation of, national directives such as Payment by Results and the <u>NHS</u> <u>Care Records Service</u>.

#### 18.2.3 The objectives of the study are to:

- 1) Establish the distribution and characteristics of clinical information systems within pan Thames paediatric intensive care, using PICANet lead members as the primary sampling frame.
- 2) Provide a means to identify, assess and understand regional data collection and aggregation processes.
- 3) Provide a framework to register all of the systems as they are identified and implemented and to provide an index of the systems' key attributes.
- 4) Provide a means to identify, register and centralise core dataset collection across trusts and help to evolve a regional audit policy.
- 5) To provide a framework for the development of a unified PICU informatics strategy for pan Thames and to facilitate/feed into a national PICU informatics strategy.

#### 18.2.4 Method

Details of the project's aim and objectives were presented to the newly established pan Thames Health Informatics Group for critical appraisal. A bespoke online questionnaire guided by previous work was established using <u>QuestionPro</u>, piloted across PH*i*G members, edited and distributed to all PICANet Leads within pan Thames PICUs via an email link. A reminder was sent to all units 4 weeks later. Non-responders were visited after 6 weeks and help was given in completing the questionnaire.

## 18.2.5 Results

All units were represented in the responses. The numbers surveyed are low and, as such, all figures are intended to direct attention to areas of interest and provide an overview of pan Thames PICU informatics. No statistical inferences should be drawn from these results.

The results presented in this report are a summary and do not include all variables collected in the survey. Additional data captured in the survey will be available for future work.

#### 18.2.6 Respondent characteristics

- The survey was completed by all units
- 14 responders from 19 surveyed
- 4 units out of 9 required site researcher assistance to complete web survey
- 7 doctors, 5 nurses, 2 data / information managers
- 5 years (mean, SD 3 years) in current post
- 13 years (mean, SD 6 years) in PICU

#### 18.2.7 Trust-wide system definitions used in PICU

Patient Administration System (PAS), [Patient Information Management System (PIM), Electronic Management Record (EMR) of Hospital Information System (HIS)] Patient administration system in which patient details such as demographic data are collected, trust-wide

#### Picture Archiving & Communication System (PACS)

This is where all X-rays and scans can be viewed.

#### Laboratory results system

This is the main trust system where laboratory results for haematology, biochemistry and microbiology are available. Example: WinPath.

#### Electronic prescribing system

This system is used to actively prescribe medications and infusions and replaces prescription sheets.

#### Ordering and Tracking System

Electronic system use to order, track and audit hospital supplies

System	Number of units	Percentage of units
Patient Administration System (PAS)	9	100
Picture Archiving and Communication System (PACS)	9	100
Laboratory results system	9	100
Electronic prescribing system	0	0
Ordering and Tracking system	6	75

## Table HI1 Distribution of trust-wide systems used in PICU

#### 18.2.8 PICU specific systems

Due to the ambiguity involved in defining clinical information systems at large, this survey has relied on a customised definition for CIS.

#### PICU System definitions used in the survey

#### Clinical Information System (CIS)

We have used a broad definition for this. CIS is a commercial system that is used to collect clinical information on PICU. Example: Metavision iMD Soft, MedICUs (MELA) system.

#### PICU database

A custom, local/'homegrown' database built only for your unit, where clinical information is collected.

#### Electronic charting system

This system is used for charting hourly parameters, blood gases, fluid balance, medications etc. Example: CareVue

	Number of units with	Number of units with PAS
System	system	links
Commercial	4	3
Custom & Local	4	3
National (PICANet)	8#	2*
Electronic charting	2	0
Electronic prescribing	0	0
Logistic & ordering	1	0

#### Table HI2 PICU CIS distribution and number with PAS links

<sup>#</sup>One unit defined the PICANet database as a PICU local system.

\* For PICANet databases with links to PAS system, the links are not direct, but through secondary local Microsoft Access databases.

## 18.2.9 The range of project-specific systems/databases in PICUs

- Sepsis database
- Retrievals database
- Extracorporeal Membrane Oxygenation (ECMO) database
- Transplant database
- Cardiac Critical Care Audit Database (CCAD)
- DNA/clinical phenotype database
- High dependency database
- Cardiac audit database using Heart Suite (commercial)
- Local Access databases

The tables below detail frequencies and percentage of responses to the specified questions.

The highest percentages for each question have been highlighted to draw attention to the figure. The figures should be interpreted with caution but provide useful insight.

'Not applicable' refers to the absence of the facility.

#### Table HI3 Frequency of system usage for Audit and Research

How frequently are each of these												
systems used for AUDIT AND					e-		PICU		e-charting		PICANet	
RESEARCH IN PICU?	PAS/PIM	%	PACS	%	prescribing	%	system	%	system	%	database	%
Always	3	25	0	0	0	0	5	50	1	11	1	9
Mostly	3	25	2	18	0	0	1	10	2	22	3	27
Sometimes	4	33	7	64	0	0	2	20	0	0	3	27
Never	1	8	1	9	1	17	1	10	0	0	2	18
Not available	1	8	1	9	5	83	1	10	6	67	2	18

#### Table HI4 Satisfaction level with systems

SATISFACTION Please rate your satisfaction with each of the following information systems:	PAS/ PIM	%	PACS	%	Radio- logy Sys	%	Trust Intranet	%	Trust e mail	%	Lab- oratory Results	%	Commercial System	%	Custom system	%	PICU e- charting	%
Very satisfied	0	0	1	8	0	0	2	17	2	17	0	0	0	0	1	9	0	0
Satisfied	7	58	3	25	2	18	4	33	6	50	6	50	1	8	2	18	2	17
Neutral	5	42	4	33	1	9	4	33	4	33	3	25	1	8	4	36	1	8
Dissatisfied	0	0	1	8	0	0	2	17	0	0	0	0	1	8	0	0	1	8
Very dissatisfied	0	0	0	0	0	0	0	0	0	0	1	8	0	0	0	0	0	0
Not applicable	0	0	3	25	8	73	0	0	0	0	2	17	9	75	4	36	8	67

#### Table HI5 Satisfaction levels with PICU IT services

					IT							
Please rate your	Trust IT				support							
SATISFACTION with	helpdesk		Trust		by		Quality of		Reporting			
each of the following	and		IT		system		data in your		functions		Audit and research	
services:	support	%	training	%	vendor	%	system(s)	%	(querying)	%	functions	%
Very satisfied	0	0	0	0	0	0	1	8	1	8	1	8
Satisfied	7	58	7	58	2	18	3	25	3	25	3	25
Neutral	2	17	5	42	5	45	5	42	5	42	7	58
Dissatisfied	0	0	0	0	2	18	2	17	0	0	0	0
Very dissatisfied	3	25	0	0	0	0	1	8	2	17	1	8
Not applicable	0	0	0	0	2	18	0	0	1	8	0	0

#### Table HI6 Satisfaction levels with access to electronic data

INFORMATION														
NEEDS Please														
indicate how well											Automated			
your information											data			
needs are met in	Demo-		Patient		Radio-						capture		Laboratory	
relation to each of the	graphic		episode		logy		Medication		e-		from		results	
following areas:	data	%	data	%	data	%	data	%	charting	%	devices	%	data	%
Very satisfied	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Satisfied	8	73	7	58	5	42	0	0	3	25	1	9	6	50
Neutral	2	18	3	25	4	33	2	18	1	8	1	9	3	25
Dissatisfied	0	0	0	0	1	8	1	9	0	0	0	0	1	8
Very dissatisfied	1	9	1	8	0	0	0	0	0	0	0	0	0	0
Not applicable	0	0	1	8	2	17	8	73	8	67	9	82	2	17

**PICANet:** PICANet data is collected on a paper form, before being entered onto the computer, in all but one unit. These proformas are completed by clinical staff (approximately 50% by doctors and 25% by nurses) and entered onto the computer by data managers. Where a paper form is not used, the data is entered directly by clinicians with a PAS link for demographic data.

Although all responders used a user-specific password for PAS, a third of respondents stated that they used a group password for CIS usage. When questioned about the audit trail of data entered in their CIS, a quarter stated that it was not possible to identify who entered the data, while 17% stated that they did not know.

An average of 7 audits are conducted at each unit per year (range 0 to 20). An average of 4 research studies are conducted at each unit per year (range 0 to 20).

Paper records continue to be the primary data source for audits and research, with 60% of responders relying on paper records 'always'.

#### 18.2.10 Methodological Issues

Although this survey was piloted and system definitions provided, it is likely that some of the terms used in the questionnaire survey (e.g. terms such as 'Radiology Information System' and 'Laboratory Information System') were interpreted in different ways by respondents. Respondents may have misinterpreted the definitions since systems are closely related.

Only lead PICANet contacts were surveyed and all not PICU staff. The staff who responded to the survey were not IT specialists and may have found it difficult to identify, for example, if the system was backed-up or whether the system was interfaced with another.

## 18.3 Payment by Results (PbR) Process Review

Due to the imminent implementation of the PCCMDS in October 2007, a *Process Review* of how pan Thames Trusts intend to manage the PbR process was initiated. For a detailed overview of PbR, the reader is referred to the Chapter by Dr Kevin Morris in the <u>PICANet National Report 2004- 2006</u> (chapter 21) and the dedicated <u>Department of Health</u> website.

At the time of the Process Review, Barts and The London NHS Trust had been established as the 10<sup>th</sup> PICU in the region and was included in the review.

## 18.3.1 What is a process review?

All organisations are run by a series of processes and procedures in order to achieve their purpose. A business *process* is a sequence of events or activities used to complete a task. A process requires involvement from more than one person or team and can be represented by words, diagram or both.

A *procedure,* on the other hand, is a set of instructions used by an individual to complete a task (this can contain one or more steps). All processes require underlying instructions (or a supporting process - often referred to as a sub-process) in order to be workable.

The aim of the PbR Process Review was to identify and describe how and by whom the <u>Paediatric Critical Care Minimum Data Set (PCC MDS)</u> was to be implemented at each unit. This involved as assessment of data collection, management and submission processes to:

- Provide an overview of processes
- Identify drivers
- Describe systems and the linkages between systems
- Analysis and describe drivers and processes

#### 18.3.2 Method

All pan Thames PICANet leads were contacted by email and meetings were arranged. Individual and group meetings focused on systems, data management and roles. 32 contacts with clinical staff, ICT leads, data, information and project mangers were made. Two of the unit reviews were conducted by telephone. Using notes from the meetings and telephone conversations, the processes identified were mapped and considered in the context of the CIS review.

#### 18.3.3 Results

The table below names those systems used to collect PbR data and the number of units using the systems, the coding systems being employed for the exercise and the staff involved in the data collection. The number of admissions per year were used to divide the units into small (s), medium (m) and large (I) units [s/m/I] (<300/300-600/>600 admissions per year, respectively). This was used as crude proxy to organisational complexity.

Table HI7 PbR data collection	n system characteristics
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Main System	Number of Units	Codes	Data Entry People	Unit size (s/m/l)
PAS (only)	8 (1)	OPCS, ICD	Administrators Coders,	3/3/2
Commercial CIS	7	Read, ICD, IPCCC, OPCS, PCCMDS codes	Clinicians (D&N1*), Bedside (PDAs <sup>#</sup> 2)	1/3/3
PICANet	2	ICD, Read, PCCMDS codes	Clinicians (D&N), Administrator/ Data manager.	2/0/0
Web (planned)	1(1)	ICD, OPCS	Nurses only clinical	
Secondary database (Access)	1(temp)	ICD, OPCS, PCCMDS	Admin	
Paper notes	6		Clinicians (D&N), Coders, Administrators	
Paper proformas	2	ICD, PCCMDS	Clinical and administrators	2/0/0

Key to abbreviations used

Read= Read Codes or Clinical Terms; ICD= International Classification of Disease; OPCS= Office of Population Census and Surveys coding system; IPCCC= International Paediatric and Congenital Cardiac Codes; PCCMDS =Paediatric Critical Care Minimum DataSet codes; PDAs= Personal Digital Assistants \* D&N1 Doctors and nurses.

## Figure HI1 Diagrammatic summary of processes involved in PbR data collection for commissioning

The number and range of PICU systems used for PbR data collection and the direction of data movement



## 18.4 Summary

#### **CIS Review**

The CIS Review provides an overview of PICU informatics. The picture is one of disparate systems in disparate environments, attempting to provide and cope with an everincreasing demand for core datasets. Data entry is duplicated across systems and media (e.g. electronic, paper, CD, DVD). There continues to be a substantial reliance on paper records to act as the central medium for collating electronic data (e.g. printed out records). Nevertheless, within this context, levels of satisfaction are above expectation.

Commercial systems in PICU are varied in their level of sophistication and many systems continue to function without PAS links. Two out of 10 units have electronic charting facilities, while none have electronic prescribing facilities.

Substantial ICT development work is taking place at some units, while little but more often none, occurs at other PICUs. At smaller units, the PICANet database acts as the only repository for electronic clinical data.

At a time where national and regional dataset collections are increasing, development work in PICU informatics remains insular with little collaborative multi-centre work. A framework to encourage and support this is absent.

This CIS Review is a cross -sectional assessment of PICU informatics using the limited resources available. A more thorough assessment, looking at strategic documentation and systems specifications, is now being proposed.

## **PbR Process Review**

Units have varied PbR data management strategies in line with local needs, organisational complexities and IT capabilities. In summation, the Trust Patient Administration System will be central in PbR data management in pan Thames. PAS will be used by one trust as the only system for PbR data collection, through a PbR data entry template. Other units will rely on PAS to provide demographic, admission, discharge and diagnosis data. PbR data relating to procedures and interventions will be collected primarily through the local clinical information system.

Diagnosis data will be collected using a range of codes and will have to be cross-mapped to PCCMDS diagnosis. Primary diagnosis coding will rely on the Coding Departments who in turn will rely on (paper) clinical notes and discharge summaries for data entry on to PAS. There exist opportunities for conflict in diagnosis data collected by administrators in PAS and by clinicians in their clinical systems. Which is to act as the *gold standard* or reference standard will need to be clarified by units.

Eight out of 10 units in pan Thames will rely on a paper PbR proforma for collection of some PbR data. Table HI 7 and Figure HI1 detail those PICU staff and systems involved in collecting and entering the data into systems. Data entry will mostly occur once per 24 hour period (at night). Once collected, data from the administrative and clinical systems are to be extracted and stored in a central data-warehouse. The data-warehouse will be managed by the hospital Information Services Department and Audit Groups. Here, it will be iteratively quality-assured through PICU staff, analysts and the PAS managers. Quality

control will also include both business and finance managers, in order to ensure that data collection and coding practices produce data that corroborate expected financial payments. Only then will the data be transferred to the commissioning leads via business managers or Information Services.

In pan Thames, 2 units will be reliant on the PICANet software to collect the PbR data. Both are small units with less than 300 admissions per year. One large unit may depend on the PICANet software temporarily, if their system vendor is unable deliver their PCCMDS template on time. Other units are self reliant for data collection but are likely to use PICANet to quality assure the data.

The centralisation of the PbR data by PICANet was not prominent during discussions However, the validity of quality assurance via PICANet is fully recognised. Data in PAS is acknowledged to be of low quality but central to the PbR process. Measures are to be taken to improve and maintain those items of data needed. Data can be exported to PICANet once the export criteria are specified by PICANet. Implementation will have time and cost implications.

The quality assurance of PCCMDS data should be based on its *fitness for purpose* within the context of individual units commissioning needs. The centralised quality assurance of the dataset beyond completeness level monitoring and its cost benefits can only be demonstrated when the process is initiated.

## 18.4.1 SNOMED PICU Subset Development Project

Full details of the SNOMED PICU Subset Development Project is provided in the <u>PICANet</u> <u>National Report 2004-2006</u>. The study is a collaboration between PICS SG, PH*i*G, PICANET and Connecting for Health and aims to reduce the >400,000 unique concepts, and 1 million synonyms used in medicine and so far defined, to a manageable number relevant to UK PICU.

## 19 PICU PEER REVIEW

## Jo Geary<sup>1</sup>, Stuart Rowe<sup>2</sup>

<sup>1</sup>Project Co-ordinator, NHS: Audit, Information & Analysis Unit <sup>2</sup>Specialist Commissioner, Hammersmith & Fulham PCT.

## 19.1 Background

In 2001, approximately 13,000 children were admitted to hospital for paediatric intensive care, nearly 3,000 following cardiac surgery, a further 2,800 following other types of surgery and the remainder as emergency admissions as a result of accidents, respiratory disease or other infectious diseases such as meningococcal disease. The majority of these children required advanced respiratory support, usually involving intubation (PICU level 2 or above). In 2000, a Peer Review process was conducted to assess compliance with the specifications for Lead Centres described in the Department of Health document *Paediatric Intensive Care: <u>A Framework for the Future</u>.* 

## 19.1.1 Method

Prior to the Peer Review visit, each unit was asked to complete a questionnaire based on the unit facilities and staffing levels. Visits to each PICU followed the same model, including a presentation of the patient throughput, case-mix, patient source, medical and nursing establishments and unit facilities. Reviews were completed by a walk-round visit to demonstrate the layout, geography and features of the Unit. The purpose of the PICU Peer Review 2006/07 is to carry out a further review process in a very similar manner to that undertaken previously, updated to take account of the current changes in the NHS environment, in order to evaluate the current and future planned configuration of resources (including medical and nursing staff) and clinical support services available to each unit, against national criteria.

## 19.2 PICU Review: Terms of Reference

The terms of reference of the PICU Peer Review are to review current service provision, future service needs, activity and outcomes and to consider the implications for staffing, policy and planning by:

- Assessing likely future demand for PIC;
- Surveying levels of staffing, level of activity and pressures at the main units providing PICU and HDU;
- Producing a report making recommendations to the PICU Commissioning Group on the clinical governance, operational and wider configuration issues that need to be addressed, in order to ensure that the optimum delivery of PIC services can be made available for resident children.

## 19.3 Timescale

The timescale proposed for the review was to commence in September 2006, with initial feedback being provided in November 2006, addressing any immediate issues in time for the 2007/2008 commissioning round. The final report covering the medium to longer term issues was to be submitted by 31<sup>st</sup> January 2007.

## 19.4 The Role of the Audit, Information and Analysis Unit (AIAU)

In order to help achieve the aims laid out in the terms of reference, a comprehensive survey is to be issued to all PICU and HDU providers included within the Pan Thames Paediatric Intensive Care Consortium. The AIAU were asked to review the questionnaire, to identify and construct methods of making questionnaire completion more manageable for the units and to provide ideas for, and assistance with, the questionnaire distribution, analysis and presentation.

## 19.5 Work completed by the AIAU

- The PICU Peer Review Questionnaire was reviewed and revised to provide multiple-choice style questions where possible, to allow for easier data entry and analysis.
- A PICU Peer Review database was constructed to allow for tailored data entry of a certain section of 'hard data' submitted by units via the PICU Peer Review Questionnaire.
- Data entry of PICU Peer Review Questionnaire information was completed where possible.
- Database queries were constructed to allow investigation of the data.

## 19.6 Recommendations

- Further queries are to be constructed by the PICU Peer Review team as and when appropriate, to allow further investigation of the data as it becomes available during the 2006/2007 round.
- The idea of a web-based survey, that can be completed online, is to be reviewed as a proposal for the 2007/8 PICU Peer review process.

A more detailed description of the Peer Review process, its background, methodology, outcomes and how it sits with regional PICU strategy and the PICU consortium's business plan is provided in the <u>pan Thames Consortium Peer Review Process Report</u> at <u>http://www.picupt.nhs.uk</u>. The objectives of the PICU accreditation and designation process are also detailed.

## 20 LONG TERM VENTILATION

## Andrea Ferns

Children's Long Term Ventilation Co-ordinator, Royal Brompton Hospital NHS Trust.

## 20.1 Background

Long term ventilation is defined as 'any child who, when medically stable, continues to need a mechanical aid for breathing<sup>ix</sup>. As the number of children requiring long term ventilation increases, the demand for Paediatric Intensive Care Unit (PICU) / High Dependency Unit (HDU) beds will also increase. Discharge planning for children requiring long term ventilation in the South East Region has ranged from 4 months to 2.5 years<sup>x</sup>. During this period, many children will remain in a PICU/HDU bed until discharge. There is a Transitional Unit at Great Ormond Street Hospital; however, this accommodates 5 patients at a time. District general hospitals currently do not accept children requiring long term ventilation, due to resource and training issues. The discharge process remains a challenge, as there is currently no standardisation of assessment of need, commissioning assessment, competency framework, equipment framework or medical framework. Resources are limited and children requiring a package of care can cost Primary Care Organisations in the region of £239,515 per year<sup>xi</sup>.

The Long Term Ventilation (LTV) Support Service was developed in 2004 and provides expertise in the field of paediatric domiciliary ventilation, working within the multidisciplinary teams of all Paediatric Intensive Care Units/High Dependency Units and Community Services within 53 Primary Care Organisations (PCOs). These PCOs are within the 3 pan Thames Strategic Health Authorities (SHAs); London SHA, East of England SHA and South East Coast SHA.

## 20.2 Long Term Ventilation Support Service Aims

- To provide a service to assess the suitability of children for LTV and co-ordinate their discharge from Paediatric Intensive Care Units/High Dependency Units in the region
- To support the training of nurses and other support staff in the care of the LTV child
- To provide a source of technical advice and support for children requiring LTV in the community

In order to standardise the procedures in discharge planning and to ensure that communication between acute and community experts in the field of long term ventilation was developed, the South East Region Professionals Group for Children on LTV and Complex Needs was established in 2006. The group is available to any key workers involved in discharge planning for children on LTV or Complex Needs. Their <u>Terms of Reference are appended (Appendix J)</u>

## 20.3 South East Region Professionals Group for Children on LTV and Complex Needs Aims

• To standardise competency documents for staff training

- To develop training and accreditation standards
- To standardise equipment lists for children requiring LTV
- To highlight areas of risk and develop recommendations
- To standardise medical documentation
- To provide recommendations for accreditation of private agency/care providers
- To review areas of resource deficits and report to PICU consortium

#### 20.4 Method

The LTV Support Service has been involved with discharge planning of 27 children during the period 2006-2007. Through this process, the LTV Support Service has highlighted a number of issues affecting the delays in discharge planning. In order to ensure that these issues are addressed and monitored, a database for children requiring LTV has been developed. Communication with acute and community services has been essential in establishing the issues affecting discharge planning. The South East Region Professionals Group has developed as a result of issues highlighted and played a central role in highlighting issues affecting acute and community LTV services.

## 20.5 Discussion

The LTV Support Service was established to support the discharge planning for children on LTV. The Service has highlighted that, although children are being discharged home, there are a number of delays affecting the process. The LTV Support Service has noted that the Primary Care Organisations (PCOs) are responsible for the commissioning of packages of care; however, there is no centralised funding for children requiring such complex care. Some PCOs may have one or more child requiring a complex package of care (£239,515 per child approx). There are few PCOs that have an NHS care team already trained and established and many private care providers/agencies are providing staff for the care package, thus increasing the overall cost of care. Recruitment of staff and high living costs in the South East Region are affecting the recruitment and retention of staff. Long term strategies to improve the infrastructure of discharge planning for children requiring long term ventilation is required to ensure that these childrens' needs are met.

#### 20.6 Conclusion

The LTV Support Service has highlighted a number of issues affecting discharge planning for children requiring long term ventilation support. By developing and maintaining a database of children within the South East of England, the LTV Support Service will be able to aggregate, integrate and improve data available on these patients. This is turn will enable optimal care and resource management. It will also allow future needs to be projected more accurately. A Professional Group has been developed to highlight issues in training, resource management, medical support and equipment in relation to children requiring LTV. By ensuring acute and community teams are communicating and working together, the LTV Support Service/ Professionals Group aims to standardise the assessment framework and competency framework, identify training issues and ensure there is a smooth transition from hospital to home.

## 20.7 References

<sup>ix</sup> Jardine E, O'Toole, M Paton, J. Wallis, C. (1999). Current status of long term ventilation of children in the United Kingdom: questionnaire survey. *BMJ*; **381**, 295-299.

<sup>x</sup> Andrea Fern, Children's Long Term Ventilation Co-ordinator, Royal Brompton Hospital Sydney Street, London, SW3 6NP. Tel: 07773387897.

<sup>xi</sup> Noyes, J. (2004). Evaluation of Health and Social Care Provision for Ventilator-Dependant Children in the UK. PHD thesis. University of York. Contains examples of packages of care. See <a href="http://www.longtermventilation.nhs.uk">www.longtermventilation.nhs.uk</a>.

## 21 PAN THAMES NURSE WORKFORCE PLANNING GROUP

## Wendy Pearson<sup>1</sup>, Carol Kennelly<sup>2</sup>, Sue Chapman<sup>3</sup>

<sup>1</sup>Lead Nurse, Respiratory and Emergency Medicine and Nephrology, Great Ormond Street Hospital NHS Trust.

<sup>2</sup> Lead Nurse Paediatric, Intensive Care Unit, St. George's Healthcare NHS Trust

<sup>3</sup>Nurse Consultant Clinical Site Practitioner, Great Ormond Street NHS Trust,

## 21.1 Background

The Paediatric Intensive Care (PIC) Consortia Workforce Group was set up initially to look at the nursing workforce requirements for paediatric intensive care units. As these units have become established the group has developed and changed its focus to incorporate workforce-planning issues for paediatric high dependency care. The group also reassess (i.e. medical and support) staffing issues.

## 21.2 Aims of the Workforce Planning Group

- Review the current nursing establishment in PIC.
- Re-examine the recommendations for changes to the dependency scoring in PIC and the effects on current nursing establishment.
- Review the dependency scoring templates for high dependency (HD) provision
- Review the nursing establishments for paediatric high dependency beds with reference to the variety of areas where high dependency children are nursed i.e. specialised units, accident and emergency departments, general paediatric wards, neonatal units and adult intensive care units.
- Review of the effects of Payment by Results on staffing high dependency care beds.
- Look at the role of support staff in paediatric and high dependency care i.e. educators, healthcare assistants, psychosocial staff
- Look at the role of advancing nurse practice with in PIC and HD care
- Collaborate with parallel pan Thames work streams to ensure effective and efficient PICs service development.
- Review of educational and training requirements and costs for nursing staff in PIC and HD care areas

#### 21.3 Current review of workforce requirements for PIC

Paediatric Intensive Care Units (PICUs) have had a nationally recognised standard of 6.4 whole time equivalent (wte) nurses per intensive care bed for a number of years now.<sup>xii</sup>

This is calculated on the understanding that level 2-3 paediatric intensive care patients are nursed on a 1:1 basis. An allowance is then built in for staff absences i.e. annual leave/sickness as well as for a nurse in charge of the unit.

Over the last three years it has become apparent that 6.4wte is not enough to meet the needs of the PICUs. This is because of several factors:

- Agenda for Change- With the introduction of Agenda for Change there was an increase in annual leave allowances for staff in the NHS and subsequently many staff in PICU were entitled to up to an extra week of annual leave
- Education and training Increases to the amount of mandatory training that is required
- Maternity Leave There have been huge increases to the amount of maternity leave and associated unpaid leave given to staff and this has had a major impact on nursing establishments and activity.
- **Dependency scoring** Most units reported substantial numbers of patients who required more than 1:1 nursing. This was difficult to quantify and therefore difficult to gain funding for.
- Nurse in Charge Role There have been changes to the role of the nurse in charge and a requirement for extra support nurses in some of the larger units.

One of the aims of the workforce-planning group was to review and develop recommendations / new guidelines for nursing levels within PICU. These guidelines would take into consideration the above points as well as the new dependency definitions that are being developed under PbR (Appendix K1).

A sub- group was set up to review services and policies and present recommendations back to the consortia. This work is due to be completed by autumn 2007.

## 21.4 Data Collection

PICUs now have a well-established data collection system and national minimum data sets.

In HD though there are currently no clear processes to collect data either locally for Pan Thames or nationally that can produce reliable and consistent data. There is no specific benchmark to help define a HD paediatric patient and this has a knock on effect for the various wards and units that care for HD children. Some of the issues that relate to the lack of data are:

- Staffing levels and skill mix (medical/nursing/support)
- Payment by Results
- Support mechanisms
- Clinical outcomes

There are already some data collection systems being developed. One example being trialled at Great Ormond Street Hospital (GOSH) for Children is the GOSH Paediatric Acuity and Nursing Dependency Assessment Tool (PANDA) (Appendix K2).

There needs to be some process set up to facilitate a minimum dataset for HD for the Pan Thames region with future potential for being part of a nationwide system as has happened with PIC.

## 21.5 Effect of Payment by Results on High Dependency (HD) provision

Many hospitals care for HD children but do not have recognised high dependency areas and as such there is concern about how these areas will be recognised and rewarded financially under the Payment by Results system.

A minimum data set will at least allow for acknowledgement of the dependency level of children being cared for, as well as give guidelines for staffing requirements on ward areas.

In the autumn of 2007 the workforce group will be focusing on HD provision in the Pan Thames region.

## 21.6 References

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http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\_4005760

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## 22 THE PAYMENT BY RESULTS ROADMAP

On 14<sup>th</sup> June 2007, the pan Thames Consortia hosted The Payment by Results (PbR) Roadmap Seminar, at ASIA House in London. This Chapter provides an overview of the day. The aim of the meeting was to; provide attendees with an overview of the PbR process, detail the background to this Department of Health initiative for resource allocation and describe the development of the Paediatric Critical Care Minimum Data Set (PCCMDS). Mechanisms for PCCMDS collection and how this integrates with the recent PICU organisational policies, the PICU peer review and commissioning of services were also addressed.

This Chapter also provides an opportunity to integrate and assess the various PICU work streams within pan Thames.

## 22.1 Outline for the day

In line with the aims of the day, a programme of presentations was organised to reflect the natural sequence of PbR-related developments, as detailed in Figure PbR1. The programme and speakers on the day are detailed in <u>Appendix L</u>. The resulting presentations and associated material from the day are accessible on the <u>pan Thames</u> <u>PICU Network website</u>.

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#### Figure PbR1 Payment by Results Day scheme diagram

## 22.2 Impact of PbR: workshop feedback and transcripts

Workshops were held to discuss the implication of PbR on;

- Long Term Ventilation (<u>Appendix M</u>)
- High Dependency Care (<u>Appendix N</u>)
- Paediatric Intensive Care (Appendix K1 and summary below)
- Retrieval / Outreach Services (Appendix O)
- Designation and Accreditation Process (Appendix R)

Workshop leads were asked to produce a summary of discussions addressing the following areas:

- Information systems
- Data collection
- PbR/ HRG
- Commissioning
- Accreditation
- Audit and future developments

Work shop summaries, where available, are <u>appended (Appendix M – R)</u>. Workshop leads also presented a synopsis of their meeting to all the delegates, for brief discussion at the end of the session. These were recorded and a *transcript* of the main points is detailed below. For more details and access to the audio files from the day, the reader is referred to the <u>pan Thames PICU Network website</u>.

## 22.2.1 Long Term Ventilation

The number of patients receiving LTV at home is not known. No information system for data collection on LTV patients is currently available. The National Working Party on LTV has collected some data and is updating this information at the moment. In essence, the size of the LTV problem is not known. The service is a low-volume, high-cost service, which can cost from £250K to the extreme case of £750K per annum. The numbers also seem to be growing.

Is there a case for national ring-fenced money for these patients? It was felt that LTV should fall outside the PbR model, due to low number and cost implication and the number of services involved in delivering the care (health, social care, education and housing etc) and this would make it difficult to fit it into a PbR model.

At present, there are no national specialist assessment tools and so services are based more on demand rather than patient need.

It was felt that the commissioning of services should be under the Specialist Commissioning Framework.

Accreditation should include both NHS and non-NHS organisations with national standards of care.

## 22.2.2 High Dependency Care

What should be done nationally regarding High Dependency Unit (HDU) care?

Although there is a PCCMDS, there is a lack of information and direction for HDU services, particularly from district general hospitals (DGH) and HDU sittings. A national initiative is needed, based on the experience from PICU.

The current PCCMDS provides some information on HDU, but is not considered sufficient. Data collection is seen as a huge problem. DGHs are not set up to collect and manage data for HDU. From a PbR perspective, consideration was given to the use of local pricing based on need and availability. But in future this should evolve to national pricing.

Using the recent scenario of the anaesthetists who refuse to provide the service outside a PICU, there is a possibility that similar scenarios may happen in HDU, where providers may opt not to provide services. The implication of this should be considered. i.e. if we begin to designate HDU areas but those that take HDU patients are not all designated.

It was felt that HDU services should be specialist commissioned but linked to a coordinating PCT. Although consortia exist in London, the same model does not exist in other parts of the country.

Accreditation was discussed at length as an important issue. Who should judge? There should be a national bench marking system. All areas that look after HDU patients should be assessed and if this were not done there may be inequitable funding issues.

A voice for HDU care outside PICU is needed. London may be further along the consortia arrangement but it is not the same everywhere.

## 22.2.3 Paediatric Intensive Care

PICANet software offers one option for data collection and there are aspirations to make this web-based. There were some anxieties about data collection overall. The systems, processes and coding methods for data collection were considered problematic. There were concerns about the use of PAS (Patient Administration Systems) systems to collect ICD 10 codes for PbR with particular reference to the '*cubicalised*' (isolated) patient to get the uplift appropriate for these patients. This process will need to be refined as the data come in and missing important items are identified. The unbundled drugs issues were also discussed in detail. The process does not seem too clear. Will unbundled drugs usage be tariffed at the national level or will there need to be local negotiations and Service Level Agreements for their usage at particular ICUs?

HRGs and PbR tariff setting were of interest but no one was available from the PbR team to provide further detail. Accurate reference costing at units was considered to be essential, since this will influence the local and national tariff setting. It is noted that just because there is a HRG assigned, that does not mean that the HRG will attract a tariff.

There were some concerns that although this process is designed to drive efficiency, this may be counter productive i.e. the drive to get the patient extubated and out of the ward may generate less income for the unit.

There was some apprehension about the change from the old commissioning process to the new and that this may change the baselines [i.e. that patients who are not currently included in the PICU commissioning arrangements begin to be counted (i.e. HDU)]. This may cause instability particularly so since not additional funding is available for these 'new' patients.

Where will the funding for the additional HDU patients come from? Will this affect PICU? It is recognised that there were level 3 care patients in the wards.

## 22.2.4 Retrieval Services

A good national perspective was available in the workgroup from the various retrievals services around the UK, including Scotland. One of the main areas discussed was how to quantify services. What are the key things to record and what is the nature of retrievals within the context of HRG?

What data collection systems are in place? All groups had their own bespoke databases with no coordination between groups. One of the issues discussed was the 'zone' of the service. Geographically, there are areas with good coverage by more than one retrievals service, while others are less effectively covered. There are also grey areas and uncovered areas.

National currency for retrieval services was thought not to be adequate because services were so different (the areas covered and models). Should funding be through a national tariff with a local uplift to reflect local market forces or journey type?

What do we want the tariff to capture? With 7 levels of PICU care in PbR, it would not seem to work since there should be 2 members of staff at least for all retrievals. What was thought to be more influential on costs were distances travelled, time, mode of transport. The tariff should reflect this and not just whether a patient is ventilated.

There was some disagreement in the discussions. National commissioning may avoid local trust politics and finances. Local / regional coordination of services were seen to be important and certainly it should not be broken down to PCT level.

Accreditation and designation: An association for quality control of retrieval services exists: The PICS Acute Transport Group. This body reviews and accredits service standards.

## 22.2.5 Designation Process

There needs to be recognition of what is meant by Designation and why it is being conducted. Why? because of the Carter Review (how we maintain and improve the quality of services) and how commissioners can help in this process.

Should Designation be national or locally led? The group felt that it should have a national criteria with a local flavour based on local needs assessment, planning and procurement. Clear needs-assessment and capacity management is required, not just for now but for a 10 to 20 year period, based on demographic change and its implication for the workforce and resources.

Who should do Designation? It should be lead by SCG but practitioners, patients and PCTs should input with collaboration with neighbouring areas.

The process must be objective and evidence-based, with an aspirational perspective balanced by reality checks.

When? It needs to be done, but we need to be clear of its aims and objectives and why it is happening.

## 23 USES AND DISSEMINATION OF PICANET DATA AND PAN THAMES WORK STREAM RESULTS

Details of information requested from PICANet by pan Thames collaborators are listed in Appendix E

The procedure for accessing PICANet data is described in the <u>PICANet National Report</u> 2004-2006

Details of presentations and publications are detailed in Appendix Q

## 24 TABLES AND FIGURES

	Sex									
Age (Years)	ge (Years) Male		Female		Ambiguous		Unknown		Total	
	n	%	n	%	n	%	n	%	n	%
0	4,554	(59)	3,113	(40)	1	(0)	26	(0)	7,694	(48.9)
1	975	(53)	871	(47)	2	(0)	6	(0)	1,854	(11.8)
2	536	(56)	413	(43)	0	(0)	4	(0)	953	(6.1)
3	454	(59)	318	(41)	0	(0)	1	(0)	773	(4.9)
4	310	(56)	247	(44)	0	(0)	1	(0)	558	(3.5)
5	240	(52)	222	(48)	0	(0)	2	(0)	464	(2.9)
6	198	(55)	164	(45)	0	(0)	1	(0)	363	(2.3)
7	192	(54)	160	(45)	0	(0)	1	(0)	353	(2.2)
8	150	(55)	121	(45)	0	(0)	0	(0)	271	(1.7)
9	185	(57)	137	(43)	0	(0)	0	(0)	322	(2.0)
10	180	(52)	168	(48)	0	(0)	0	(0)	348	(2.2)
11	151	(51)	147	(49)	0	(0)	0	(0)	298	(1.9)
12	179	(52)	165	(48)	0	(0)	0	(0)	344	(2.2)
13	204	(56)	157	(43)	0	(0)	1	(0)	362	(2.3)
14	201	(50)	197	(49)	0	(0)	1	(0)	399	(2.5)
15	196	(50)	193	(50)	0	(0)	0	(0)	389	(2.5)
Total	8,905	(56.6)	6,793	(43.1)	3	(0.0)	44	(0.3)	15,745	

#### Table 1 Admissions by age and sex, 2004 - 2006

Figure 1 Admissions by age and sex, 2004 - 2006



Table 2 Admissions by age (<1) and sex, 2004 - 2006

Sex										
Age (Months)	Age (Months) Male		Female		Ambiguous		Unknown		Total	
	n	%	n	%	n	%	n	%	n	%
0	1,676	(60)	1,117	(40)	1	(0)	12	(0)	2,806	(36.5)
1	627	(61)	396	(39)	0	(0)	1	(0)	1,024	(13.3)
2	388	(56)	300	(43)	0	(0)	2	(0)	690	(9.0)
3	339	(58)	246	(42)	0	(0)	2	(0)	587	(7.6)
4	295	(63)	174	(37)	0	(0)	1	(0)	470	(6.1)
5	251	(62)	152	(38)	0	(0)	0	(0)	403	(5.2)
6	192	(54)	165	(46)	0	(0)	0	(0)	357	(4.6)
7	172	(58)	123	(42)	0	(0)	0	(0)	295	(3.8)
8	162	(58)	116	(42)	0	(0)	1	(0)	279	(3.6)
9	162	(61)	101	(38)	0	(0)	1	(0)	264	(3.4)
10	149	(55)	117	(43)	0	(0)	3	(1)	269	(3.5)
11	141	(56)	106	(42)	0	(0)	3	(1)	250	(3.2)
Total	4,554	(59.2)	3,113	(40.5)	1	(0.0)	26	(0.3)	7,694	

Figure 2 Admissions by age (<1) and sex, 2004 - 2006



Table 3 Admissions	bv	age I	by NHS	trust.	2004 -	2006
Tuble o Aumosions	~,	ugei	<i>y</i> 1110	uuuu,	2004	2000

		Age Group (Years)									
Year	NHS Trust	<1	<1 1-4 5-10 11-15		15	Tota	ıl				
		n	%	n	%	n	%	n	%	n	%
0004		454	(0.4)	444	(05)	04	(04)	00	(00)	440	(0.0)
2004	A	151	(34)	75	(25)	91	(21)	90	(20)	443	(8.2)
	B	134	(47)	75	(20)	40	(10)	045	(11)	203	(0.3)
	E	967	(54)	381	(21)	215	(12)	215	(12)	1,778	(33.1)
	Г Ц	707	(20)	209	(23)	101	(9)	00	(0)	1,105	(Z1.7)
		93	(30)	110	(30)	12	(10)	49	(10)	308	(3.7) (4.5)
	0	30	(44)	175	(27)	13	(10)	20	(13)	0Z 552	(1.5)
	U T	274	(00)	175	(32)	60 50	(12)	39	(1)	202	(10.3)
		124	(34)	125	(34)	52	(14)	00	(10)	300	(0.0)
2004 T	U atal	1.59	(30)	1 4 1	(30)	704	(17)	40	(12)	5 392	(7.3)
2004 1	otai	2,020	(40.9)	1,409	(20.2)	704	(13.1)	034	(11.0)	5,372	
2005	Α	138	(33)	99	(24)	111	(26)	72	(17)	420	(8.1)
	В	108	(46)	64	(27)	27	(12)	34	(15)	233	(4.5)
	E	833	(55)	333	(22)	194	(13)	155	(10)	1,515	(29.4)
	F	655	(58)	273	(24)	107	(10)	88	(8)	1,123	(21.8)
	Н	111	(33)	109	(32)	55	(16)	62	(18)	337	(6.5)
	J	48	(50)	24	(25)	13	(14)	11	(11)	96	(1.9)
	0	362	(59)	142	(23)	71	(12)	40	(7)	615	(11.9)
	Т	105	(25)	157	(38)	89	(22)	62	(15)	413	(8.0)
	U	160	(39)	146	(36)	71	(17)	31	(8)	408	(7.9)
2005 T	otal	2,520	(48.8)	1,347	(26.1)	738	(14.3)	555	(10.8)	5,160	
2006	٨	166	(27)	102	(22)	04	(01)	96	(10)	440	(9.6)
2000	A B	100	(37)	103	(25)	94	(21)	57	(19)	449	(0.0)
	D E	012	(50)	260	(23)	174	(14)	154	(23)	1 600	(4.3)
	E E	595	(57)	200	(23)	06	(11)	104	(10)	1,000	(30.7)
	r U	200	(34)	200	(20)	90	(9)	120	(11)	1,000	(20.0)
		100	(52)	20	(37)	52	(17)	40	(15)	313	(0.0)
	0	207	(50)	150	(27)	72	(0)	45	(0)	7 J 655	(1.4)
	T	140	(33)	140	(23)	13	(11)	40	(1)	442	(12.0)
	i I	140	(32)	149	(34)	57	(22)	32	(13)	442	(0.3) (7 0)
2006 T	otal	2 5 4 9	(18.0)	1 2 2 2	(26.5)	679	(13.0)	603	(11.6)	5 212	(7.0)
2000 1	viui	2,040	(+0.3)	1,002	(20.3)	013	(13.0)	003	(11.0)	5,215	
Grand	Total	7,694	(48.9)	4,138	(26.3)	2,121	(13.5)	1,792	(11.4)	15,745	
Table 4	Admissions	by age	(~1) hv	NHS trust	2004 - 2006						
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	Autilissions	by aye	(< 1) Dy	NITS trust,	2004 - 2000						

				Α	ge Group (	Months)					
Year	NHS Trust	<1		1-:	2	3-5	5	6-1	1	Tota	al
		n	%	n	%	n	%	n	%	n	%
0004		10	(00)	07	(05)		(00)		(00)		(5.0)
2004	A	42	(28)	37	(25)	33	(22)	39	(26)	151	(5.8)
	В	38	(28)	39	(29)	28	(21)	29	(22)	134	(5.1)
	E	420	(43)	192	(20)	1/6	(18)	179	(19)	967	(36.8)
	F	312	(44)	151	(21)	118	(17)	126	(18)	/0/	(26.9)
	н	21	(23)	25	(27)	15	(16)	32	(34)	93	(3.5)
	J	4	(11)	8	(22)	14	(39)	10	(28)	36	(1.4)
	0	105	(38)	56	(20)	59	(22)	54	(20)	274	(10.4)
	1	23	(19)	30	(24)	28	(23)	43	(35)	124	(4.7)
	U	26	(19)	41	(29)	31	(22)	41	(29)	139	(5.3)
2004 T	otal	991	(37.8)	579	(22.1)	502	(19.1)	553	(21.1)	2,625	
2005	Α	30	(22)	41	(30)	33	(24)	34	(25)	138	(5.5)
	В	22	(20)	33	(31)	30	(28)	23	(21)	108	(4.3)
	E	334	(40)	174	(21)	159	(19)	166	(20)	833	(33.1)
	F	269	(41)	152	(23)	107	(16)	127	(19)	655	(26.0)
	Н	22	(20)	21	(19)	28	(25)	40	(36)	111	(4.4)
	J	9	(19)	13	(27)	13	(27)	13	(27)	48	(1.9)
	0	147	(41)	71	(20)	71	(20)	73	(20)	362	(14.4)
	Т	23	(22)	25	(24)	20	(19)	37	(35)	105	(4.2)
	U	35	(22)	36	(23)	37	(23)	52	(33)	160	(6.3)
2005 T	otal	891	(35.4)	566	(22.5)	498	(19.8)	565	(22.4)	2,520	<u>_</u>
2006	Α	43	(26)	43	(26)	26	(16)	54	(33)	166	(6.5)
	В	17	(21)	28	(35)	19	(23)	17	(21)	81	(3.2)
	E	389	(43)	193	(21)	155	(17)	175	(19)	912	(35.8)
	F	247	(42)	121	(21)	91	(16)	126	(22)	585	(23.0)
	Н	20	(20)	20	(20)	22	(22)	38	(38)	100	(3.9)
	J	8	(20)	13	(32)	10	(24)	10	(24)	41	(1.6)
	0	156	(40)	76	(20)	74	(19)	81	(21)	387	(15.2)
	т	16	(11)	40	(29)	38	(27)	46	(33)	140	(5.5)
	U	28	(20)	35	(26)	25	(18)	49	(36)	137	(5.4)
2006 T	otal	924	(36.2)	569	(22.3)	460	(18.0)	596	(23.4)	2,549	
Grand	Total	2,806	(36.5)	1,714	(22.3)	1,460	(19.0)	1,714	(22.3)	7,694	

			· ·	Age	Group (Y	ears	5)				
Year	NHS Trust	1	6	1	7-20	:	21-25		26+	То	otal
		n	%	n	%	n	%	n	%	n	%
2004	Α	6	(100)	0	(0)	0	(0)	0	(0)	6	(7.1)
	В	6	(75)	2	(25)	0	(0)	0	(0)	8	(9.5)
	E	29	(74)	10	(26)	0	(0)	0	(0)	39	(46.4)
	F	8	(57)	6	(43)	0	(0)	0	(0)	14	(16.7)
	н	9	(100)	0	(0)	0	(0)	0	(0)	9	(10.7)
	Т	3	(50)	3	(50)	0	(0)	0	(0)	6	(7.1)
	U	0	(0)	2	(100)	0	(0)	0	(0)	2	(2.4)
2004 T	<b>Total</b>	61	(72.6)	23	(27.4)	0	(0.0)	0	(0.0)	84	
2005	Α	4	(80)	1	(20)	0	(0)	0	(0)	5	(7.7)
	В	1	(33)	2	(67)	0	(0)	0	(0)	3	(4.6)
	E	23	(74)	7	(23)	0	(0)	1	(3)	31	(47.7)
	F	5	(56)	3	(33)	0	(0)	1	(11)	9	(13.8)
	н	2	(67)	1	(33)	0	(0)	0	(0)	3	(4.6)
	J	1	(100)	0	(0)	0	(0)	0	(0)	1	(1.5)
	0	2	(67)	1	(33)	0	(0)	0	(0)	3	(4.6)
	т	4	(67)	2	(33)	0	(0)	0	(0)	6	(9.2)
	U	2	(50)	2	(50)	0	(0)	0	(0)	4	(6.2)
2005 T	<b>Total</b>	44	(67.7)	19	(29.2)	0	(0.0)	2	(3.1)	65	
2006	Α	5	(100)	0	(0)	0	(0)	0	(0)	5	(6.7)
	В	4	(50)	4	(50)	0	(0)	0	(0)	8	(10.7)
	E	18	(60)	12	(40)	0	(0)	0	(0)	30	(40.0)
	F	10	(71)	4	(29)	0	(0)	0	(0)	14	(18.7)
	н	5	(71)	2	(29)	0	(0)	0	(0)	7	(9.3)
	J	0	(0)	1	(100)	0	(0)	0	(0)	1	(1.3)
	Т	6	(75)	2	(25)	0	(0)	0	(0)	8	(10.7)
	U	1	(50)	1	(50)	0	(0)	0	(0)	2	(2.7)
2006 T	otal	49	(65.3)	26	(34.7)	0	(0.0)	0	(0.0)	75	
Grand	Total	154	(68.8)	68	(30.4)	0	(0.0)	2	(0.9)	224	

Table 5 Admissions by age (16+) by NHS trust, 2004 - 2006

				A	ge Group	(Years)			_	<b>-</b> ·	
Year	Month	<1		1-4	•	5-1	0	11-1	5	Tota	1
		n	%	n	%	n	%	n	%	n	%
2004	1	261	(59)	96	(22)	50	(11)	39	(9)	446	(8.3
	2	204	(48)	113	(26)	60	(14)	51	(12)	428	(8.0
	3	237	(48)	131	(27)	69	(14)	57	(12)	494	(9.2
	4	226	(53)	107	(25)	41	(10)	49	(12)	423	(7.9
	5	199	(44)	138	(30)	60	(13)	56	(12)	453	(8.4
	6	207	(47)	115	(26)	48	(11)	70	(16)	440	(8.2
	7	211	(48)	123	(28)	62	(14)	46	(10)	442	(8.2
	8	161	(39)	126	(31)	59	(14)	62	(15)	408	(7.6
	9	210	(48)	112	(26)	69	(16)	43	(10)	434	(8.1
	10	218	(49)	98	(22)	71	(16)	55	(12)	442	(8.2
	11	236	(49)	136	(28)	58	(12)	54	(11)	484	(9.0
	12	255	(53)	114	(24)	57	(12)	52	(11)	478	(8.9
2004 1	otal	2,625	(48.9)	1,409	(26.2)	704	(13.1)	634	(11.8)	5,372	
2005	1	248	(53)	113	(24)	65	(14)	45	(10)	471	(9.1
	2	185	(47)	132	(33)	44	(11)	36	(9)	397	(7.7
	3	210	(46)	126	(28)	71	(16)	46	(10)	453	(8.8)
	4	208	(50)	104	(25)	59	(14)	42	(10)	413	(8.0
	5	193	(48)	101	(25)	70	(18)	34	(9)	398	(7.7
	6	206	(48)	98	(23)	63	(15)	59	(14)	426	(8.3
	7	221	(47)	121	(26)	76	(16)	52	(11)	470	(9.1
	8	189	(47)	100	(25)	68	(17)	44	(11)	401	(7.8
	9	173	(44)	115	(29)	55	(14)	52	(13)	395	(7.7
	10	180	(45)	120	(30)	60	(15)	42	(10)	402	(7.8
	11	233	(50)	111	(24)	69	(15)	50	(11)	463	(9.0
0005 7	12	274	(58)	106	(23)	38	(8)	53	(11)	471	(9.1
2005	otal	2,520	(48.8)	1,347	(26.1)	738	(14.3)	555	(10.8)	5,160	
2006	1	232	(52)	111	(25)	56	(13)	11	(10)	1/3	(8.5
2000	2	212	(49)	107	(25)	66	(15)	51	(10)	436	(8.4
	3	216	(49)	122	(27)	57	(13)	49	(12)	400	(8.5
	4	196	(48)	116	(28)	51	(13)	45	(11)	408	(7.8
	5	214	(48)	136	(30)	50	(10)	48	(11)	448	(8.6
	6	205	(49)	101	(24)	57	(14)	55	(13)	418	(8.0
	7	182	(42)	121	(28)	76	(17)	58	(13)	437	(8.4
	8	203	(47)	112	(26)	62	(14)	52	(12)	429	(8.2
	9	205	(48)	110	(26)	55	(13)	54	(13)	424	(8.1
	10	207	(49)	123	(29)	46	(11)	50	(12)	426	(8.2
	11	215	(48)	115	(26)	58	(13)	62	(14)	450	(8.6
	12	262	(58)	108	(24)	45	(10)	35	(8)	450	(8.6
2006 1	otal	2,549	(48.9)	1,382	(26.5)	679	(13.0)	603	(11.6)	5,213	( . · · · )
					. /				. ,		
Grand	Total	7,694	(48.9)	4,138	(26.3)	2,121	(13.5)	1,792	(11.4)	15,745	

Figure 6 Admissions by month and age, 2004 - 2006

<1 → 1-4 → 5-10 → 11-15</li>



Table 7 Admissions b	v month and n	primary diag	nostic arour	. 2004 - 200€
	,			.,

												Dia	gnostic	Group																	
Year	Month	Blood / lym	phatic	Body wall and	l cavities	Cardiova	ascular	Endocrine / I	netabolic	Gastroint	estinal	Infec	tion	Multisy	stem	Musculos	keletal	Neurol	ogical	Oncolo	ogy	Other		Respira	atory	Trau	ma	Unknov	vn	Total	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
2004	1	3	(1)	10	(2)	126	(28)	8	(2)	33	(7)	22	(5)	0	(0)	10	(2)	47	(11)	19	(4)	17	(4)	141	(32)	8	(2)	2	(0)	446	(8.3)
	2	2	(0)	10	(2)	137	(32)	8	(2)	35	(8)	15	(4)	0	(0)	5	(1)	66	(15)	14	(3)	20	(5)	103	(24)	9	(2)	4	(1)	428	(8.0)
	3	3	(1)	16	(3)	166	(34)	12	(2)	34	(7)	33	(7)	2	(0)	13	(3)	51	(10)	10	(2)	19	(4)	118	(24)	14	(3)	3	(1)	494	(9.2)
	4	3	(1)	5	(1)	163	(39)	6	(1)	32	(8)	23	(5)	2	(0)	6	(1)	54	(13)	19	(4)	14	(3)	80	(19)	15	(4)	1	(0)	423	(7.9)
	5	3	(1)	6	(1)	150	(33)	9	(2)	33	(7)	14	(3)	0	(0)	15	(3)	45	(10)	17	(4)	30	(7)	98	(22)	29	(6)	4	(1)	453	(8.4)
	6	7	(2)	10	(2)	170	(39)	6	(1)	30	(7)	11	(3)	1	(0)	12	(3)	48	(11)	13	(3)	26	(6)	83	(19)	23	(5)	0	(0)	440	(8.2)
	7	5	(1)	6	(1)	160	(36)	9	(2)	39	(9)	18	(4)	0	(0)	8	(2)	52	(12)	16	(4)	20	(5)	90	(20)	17	(4)	2	(0)	442	(8.2)
	8	4	(1)	5	(1)	140	(34)	17	(4)	33	(8)	27	(7)	1	(0)	12	(3)	35	(9)	12	(3)	22	(5)	84	(21)	14	(3)	2	(0)	408	(7.6)
	9	5	(1)	10	(2)	129	(30)	8	(2)	34	(8)	19	(4)	0	(0)	5	(1)	54	(12)	24	(6)	22	(5)	107	(25)	12	(3)	5	(1)	434	(8.1)
	10	5	(1)	4	(1)	152	(34)	11	(2)	41	(9)	7	(2)	0	(0)	11	(2)	62	(14)	21	(5)	21	(5)	90	(20)	15	(3)	2	(0)	442	(8.2)
	11	4	(1)	7	(1)	146	(30)	10	(2)	31	(6)	13	(3)	1	(0)	8	(2)	48	(10)	23	(5)	28	(6)	146	(30)	16	(3)	3	(1)	484	(9.0)
	12	3	(1)	4	(1)	124	(26)	12	(3)	26	(5)	22	(5)	0	(0)	5	(1)	53	(11)	14	(3)	17	(4)	186	(39)	11	(2)	1	(0)	478	(8.9)
2004	Total	47	(0.9)	93	(1.7)	1,763	(32.8)	116	(2.2)	401	(7.5)	224	(4.2)	7	(0.1)	110	(2.0)	615	(11.4)	202	(3.8)	256	(4.8)	1,326	(24.7)	183	(3.4)	29 (	0.5)	5,372	
2005	1	4	(1)	4	(1)	142	(30)	13	(3)	34	(7)	25	(5)	0	(0)	14	(3)	57	(12)	15	(3)	26	(6)	128	(27)	7	(1)	2	(0)	471	(9.1)
	2	9	(2)	8	(2)	103	(26)	14	(4)	23	(6)	18	(5)	0	(0)	5	(1)	62	(16)	11	(3)	29	(7)	105	(26)	8	(2)	2	(1)	397	(7.7)
	3	5	(1)	10	(2)	138	(30)	10	(2)	24	(5)	24	(5)	1	(0)	8	(2)	61	(13)	16	(4)	22	(5)	115	(25)	16	(4)	3	(1)	453	(8.8)
	4	5	(1)	14	(3)	132	(32)	6	(1)	31	(8)	16	(4)	1	(0)	5	(1)	48	(12)	14	(3)	26	(6)	101	(24)	12	(3)	2	(0)	413	(8.0)
	5	9	(2)	7	(2)	124	(31)	7	(2)	34	(9)	14	(4)	3	(1)	9	(2)	59	(15)	20	(5)	14	(4)	82	(21)	15	(4)	1	(0)	398	(7.7)
	6	9	(2)	12	(3)	142	(33)	4	(1)	30	(7)	11	(3)	1	(0)	6	(1)	54	(13)	12	(3)	35	(8)	86	(20)	21	(5)	3	(1)	426	(8.3)
	7	4	(1)	13	(3)	168	(36)	9	(2)	34	(7)	24	(5)	1	(0)	7	(1)	54	(11)	15	(3)	26	(6)	93	(20)	19	(4)	3	(1)	470	(9.1)
	8	0	(0)	9	(2)	153	(38)	4	(1)	36	(9)	16	(4)	1	(0)	8	(2)	51	(13)	10	(2)	24	(6)	68	(17)	20	(5)	1	(0)	401	(7.8)
	9	0	(0)	6	(2)	142	(36)	11	(3)	39	(10)	11	(3)	1	(0)	6	(2)	46	(12)	23	(6)	10	(3)	84	(21)	14	(4)	2	(1)	395	(7.7)
	10	3	(1)	8	(2)	132	(33)	10	(2)	19	(5)	21	(5)	0	(0)	6	(1)	58	(14)	13	(3)	16	(4)	107	(27)	7	(2)	2	(0)	402	(7.8)
	11	6	(1)	7	(2)	143	(31)	8	(2)	30	(6)	16	(3)	0	(0)	9	(2)	54	(12)	22	(5)	15	(3)	141	(30)	11	(2)	1	(0)	463	(9.0)
	12	5	(1)	2	(0)	117	(25)	8	(2)	20	(4)	20	(4)	0	(0)	7	(1)	41	(9)	20	(4)	15	(3)	194	(41)	12	(3)	10	(2)	471	(9.1)
2005	Total	59	(1.1)	100	(1.9)	1,636	(31.7)	104	(2.0)	354	(6.9)	216	(4.2)	9	(0.2)	90	(1.7)	645	(12.5)	191 (	(3.7)	258	(5.0)	1,304	(25.3)	162	(3.1)	32 (	0.6)	5,160	
2006	1	4	(1)	7	(2)	137	(31)	13	(3)	24	(5)	25	(6)	1	(0)	10	(2)	54	(12)	22	(5)	18	(4)	122	(28)	6	(1)	0	(0)	443	(8.5)
	2	8	(2)	7	(2)	130	(30)	15	(3)	27	(6)	26	(6)	3	(1)	8	(2)	49	(11)	18	(4)	18	(4)	115	(26)	9	(2)	3	(1)	436	(8.4)
	3	3	(1)	9	(2)	148	(33)	10	(2)	30	(7)	27	(6)	0	(0)	10	(2)	61	(14)	13	(3)	16	(4)	104	(23)	8	(2)	5	(1)	444	(8.5)
	4	6	(1)	6	(1)	142	(35)	12	(3)	32	(8)	20	(5)	4	(1)	4	(1)	38	(9)	14	(3)	24	(6)	99	(24)	6	(1)	1	(0)	408	(7.8)
	5	2	(0)	9	(2)	160	(36)	6	(1)	27	(6)	15	(3)	1	(0)	9	(2)	54	(12)	18	(4)	19	(4)	115	(26)	12	(3)	1	(0)	448	(8.6)
	6	4	(1)	9	(2)	150	(36)	7	(2)	36	(9)	15	(4)	4	(1)	11	(3)	43	(10)	13	(3)	23	(6)	88	(21)	13	(3)	2	(0)	418	(8.0)
	7	2	(0)	4	(1)	139	(32)	12	(3)	40	(9)	17	(4)	0	(0)	8	(2)	38	(9)	31	(7)	33	(8)	91	(21)	20	(5)	2	(0)	437	(8.4)
	8	3	(1)	4	(1)	173	(40)	16	(4)	30	(7)	22	(5)	1	(0)	9	(2)	43	(10)	16	(4)	19	(4)	60	(14)	25	(6)	8	(2)	429	(8.2)
	9	2	(0)	11	(3)	151	(36)	9	(2)	31	(7)	14	(3)	1	(0)	15	(4)	37	(9)	22	(5)	32	(8)	77	(18)	17	(4)	5	(1)	424	(8.1)
1	10	0	(0)	9	(2)	156	(37)	10	(2)	27	(6)	23	(5)	1	(0)	14	(3)	38	(9)	22	(5)	21	(5)	91	(21)	11	(3)	3	(1)	426	(8.2)
1	11	9	(2)	5	(1)	138	(31)	9	(2)	33	(7)	16	(4)	4	(1)	5	(1)	47	(10)	14	(3)	22	(5)	134	(30)	9	(2)	5	(1)	450	(8.6)
	12	4	(1)	9	(2)	106	(24)	13	(3)	31	(7)	18	(4)	4	(1)	6	(1)	44	(10)	18	(4)	16	(4)	165	(37)	7	(2)	9	(2)	450	(8.6)
2006	Iotal	47	(0.9)	89	(1.7)	1,730	(33.2)	132	(2.5)	368	(7.1)	238	(4.6)	24	(0.5)	109	(2.1)	546	(10.5)	221	4.2)	261	(5.0)	1,261	(24.2)	143	(2.7)	44 (	U.8)	5,213	
Gran	d Total	153	(1.0)	282	(1.8)	5,129	(32.6)	352	(2.2)	1,123	(7.1)	678	(4.3)	40	(0.3)	309	(2.0)	1,806	(11.5)	614	(3.9)	775	(4.9)	3,891	(24.7)	488	(3.1)	105 (	0.7)	15,745	

Figure 7 Admissions by month and primary diagnostic group, 2004 - 2006



Table	o Respirat				age, 2004 -	Years)					
Year	Month	<1		1-	4	5-	10	11-	15	Tot	al
		n	%	n.	%	n	%	n	%	n	%
0004	4	400	(75)	05	(40)		(5)	0	(0)		(40.0)
2004	1	106	(75)	25	(18)	11	(5)	3	(2)	141	(10.6)
	2	60	(61)	24	(23)	10	(11)	5	(5)	103	(7.8)
	3	45	(51)	26	(20)	5	(13)	1	(0)	20	(0.3)
	5	45	(46)	35	(36)	12	(12)	6	(5)	98	(0.0)
	6	45	(54)	22	(27)	6	(7)	10	(12)	83	(6.3)
	7	48	(53)	22	(24)	14	(16)	6	(7)	90	(6.8)
	8	43	(51)	24	(29)	9	(11)	8	(10)	84	(6.3)
	9	57	(53)	27	(25)	16	(15)	7	(7)	107	(8.1)
	10	53	(59)	25	(28)	9	(10)	3	(3)	90	(6.8)
	11	85	(58)	37	(25)	18	(12)	6	(4)	146	(11.0)
	12	118	(63)	39	(21)	20	(11)	9	(5)	186	(14.0)
2004 T	otal	768	(57.9)	339	(25.6)	145	(10.9)	74	(5.6)	1,326	
			()		(1.5)		(		()		(2.2)
2005	1	80	(63)	24	(19)	15	(12)	9	(7)	128	(9.8)
	2	51	(49)	43	(41)	4	(4)	7	(7)	105	(8.1)
	3	51	(44)	38	(33)	19	(17)	/	(0)	115	(8.8)
	4	58	(57)	25	(25)	9	(9)	9	(9)	101	(1.1)
	5	40	(49)	29	(33)	12	(11)	4	(14)	96	(0.3)
	7	41	(40)	21	(24)	12	(14)	12	(14)	00	(0.0)
	8	33	(43)	20	(29)	9	(12)	6	(9)	68	(7.1)
	q	34	(40)	28	(33)	14	(17)	8	(10)	84	(6.4)
	10	51	(48)	32	(30)	18	(17)	6	(6)	107	(8.2)
	11	78	(55)	44	(31)	13	(9)	6	(4)	141	(10.8)
	12	136	(70)	35	(18)	10	(5)	13	(7)	194	(14.9)
2005 T	otal	693	(53.1)	373	(28.6)	143	(11.0)	95	(7.3)	1,304	
		70	(00)		(05)				(0)		(0 =)
2006	1	76	(62)	31	(25)	8	(/)	7	(6)	122	(9.7)
	2	51	(44)	39	(34)	18	(16)	7	(6)	115	(9.1)
	3	49	(47)	3/	(36)	11	(11)	2	(7)	104	(8.2)
	4	52	(33)	33	(33)	12	(12)	10	(2)	99	(7.9)
	6	50	(47)	26	(30)	9	(7)	6	(3)	88	(3.1)
	7	36	(40)	32	(35)	14	(15)	9	(10)	91	(7.0)
	8	29	(48)	21	(35)	6	(10)	4	(7)	60	(4.8)
	9	36	(47)	23	(30)	10	(13)	8	(10)	77	(6.1)
	10	37	(41)	40	(44)	9	(10)	5	(5)	91	(7.2)
	11	69	(51)	37	(28)	17	(13)	11	(8)	134	(10.6)
	12	105	(64)	40	(24)	13	(8)	7	(4)	165	(13.1)
2006 T	otal	644	(51.1)	401	(31.8)	133	(10.5)	83	(6.6)	1,261	
Grand	Iotal	2,105	(54.1)	1,113	(28.6)	421	(10.8)	252	(6.5)	3,891	

Figure 8 Respiratory admissions by month and age, 2004 - 2006





Table 9 Admissions by month by NHS trust, 2004 - 2006

													Month														
Year	NHS Trust	Janua	ry	Februa	ary	Marc	h	Apri	I	May		June	e	July	,	Augu	ist	Septerr	nber	Octob	er	Novem	ber	Decemb	ber	Tota	ıl
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
2004	Α	33	(7)	35	(8)	41	(9)	37	(8)	34	(8)	33	(7)	39	(9)	28	(6)	43	(10)	42	(9)	43	(10)	35	(8)	443	(8.2)
	В	23	(8)	35	(12)	34	(12)	20	(7)	12	(4)	16	(6)	17	(6)	23	(8)	24	(8)	24	(8)	30	(11)	27	(9)	285	(5.3)
	E	130	(7)	142	(8)	165	(9)	146	(8)	149	(8)	159	(9)	151	(8)	158	(9)	153	(9)	134	(8)	143	(8)	148	(8)	1,778	(33.1)
	F	112	(10)	86	(7)	104	(9)	102	(9)	100	(9)	90	(8)	89	(8)	74	(6)	80	(7)	97	(8)	103	(9)	128	(11)	1,165	(21.7)
	н	20	(6)	19	(6)	19	(6)	21	(7)	36	(12)	30	(10)	25	(8)	22	(7)	28	(9)	25	(8)	27	(9)	36	(12)	308	(5.7)
	J	10	(12)	4	(5)	12	(15)	8	(10)	4	(5)	9	(11)	5	(6)	5	(6)	9	(11)	7	(9)	6	(7)	3	(4)	82	(1.5)
	0	48	(9)	50	(9)	53	(10)	36	(7)	44	(8)	51	(9)	53	(10)	47	(8)	41	(7)	48	(9)	51	(9)	31	(6)	553	(10.3)
	Т	29	(8)	18	(5)	27	(7)	26	(7)	42	(11)	29	(8)	34	(9)	28	(8)	29	(8)	31	(8)	38	(10)	35	(10)	366	(6.8)
	U	41	(10)	39	(10)	39	(10)	27	(7)	32	(8)	23	(6)	29	(7)	23	(6)	27	(7)	34	(9)	43	(11)	35	(9)	392	(7.3)
2004 T	otal	446	(8.3)	428	(8.0)	494	(9.2)	423	(7.9)	453	(8.4)	440	(8.2)	442	(8.2)	408	(7.6)	434	(8.1)	442	(8.2)	484	(9.0)	478	(8.9)	5,372	
2005	A	33	(8)	39	(9)	45	(11)	31	(7)	40	(10)	34	(8)	37	(9)	31	(7)	30	(7)	31	(7)	37	(9)	32	(8)	420	(8.1)
	В	32	(14)	20	(9)	13	(6)	22	(9)	23	(10)	11	(5)	16	(7)	8	(3)	20	(9)	23	(10)	24	(10)	21	(9)	233	(4.5)
	E	148	(10)	97	(6)	130	(9)	129	(9)	128	(8)	126	(8)	142	(9)	130	(9)	115	(8)	116	(8)	117	(8)	137	(9)	1,515	(29.4)
	F	95	(8)	92	(8)	103	(9)	88	(8)	72	(6)	96	(9)	103	(9)	87	(8)	85	(8)	75	(7)	110	(10)	117	(10)	1,123	(21.8)
	н	22	(7)	31	(9)	26	(8)	29	(9)	26	(8)	37	(11)	36	(11)	23	(7)	27	(8)	20	(6)	30	(9)	30	(9)	337	(6.5)
	J	18	(19)	5	(5)	9	(9)	4	(4)	13	(14)	9	(9)	11	(11)	7	(7)	5	(5)	4	(4)	6	(6)	5	(5)	96	(1.9)
	0	56	(9)	43	(7)	38	(6)	46	(7)	37	(6)	56	(9)	65	(11)	60	(10)	50	(8)	61	(10)	56	(9)	47	(8)	615	(11.9)
	Т	33	(8)	36	(9)	55	(13)	30	(7)	29	(7)	30	(7)	30	(7)	34	(8)	34	(8)	33	(8)	33	(8)	36	(9)	413	(8.0)
	U	34	(8)	34	(8)	34	(8)	34	(8)	30	(7)	27	(7)	30	(7)	21	(5)	29	(7)	39	(10)	50	(12)	46	(11)	408	(7.9)
2005 1	otal	471	(9.1)	397	(7.7)	453	(8.8)	413	(8.0)	398	(7.7)	426	(8.3)	470	(9.1)	401	(7.8)	395	(7.7)	402	(7.8)	463	(9.0)	471	(9.1)	5,160	
2006	۵	30	(7)	47	(10)	35	(8)	27	(6)	38	(8)	39	(9)	37	(8)	35	(8)	35	(8)	46	(10)	32	(7)	48	(11)	449	(8.6)
	B	15	(7)	26	(12)	23	(10)	13	(6)	19	(8)	17	(8)	15	(7)	22	(10)	21	(9)	12	(5)	26	(12)	17	(8)	226	(4.3)
	F	134	(8)	110	(7)	146	(9)	133	(8)	136	(9)	139	(9)	151	(9)	139	(9)	141	(9)	124	(8)	130	(8)	117	(7)	1.600	(30.7)
	F	100	(9)	104	(10)	89	(8)	.00	(8)	87	(8)	84	(8)	81	(7)	78	(7)	86	(8)	85	(8)	88	(8)	113	(10)	1,086	(20.8)
	н	29	(9)	17	(5)	17	(5)	25	(8)	28	(9)	28	(9)	30	(10)	30	(10)	25	(8)	23	(7)	32	(10)	31	(10)	315	(6.0)
	J	5	(7)	6	(8)	7	(10)	7	(10)	6	(8)	5	(7)	2	(3)	3	(4)		(7)		(7)	12	(16)	10	(14)	73	(1.4)
	0	54	(8)	45	(7)	47	(7)	50	(8)	64	(10)	55	(8)	52	(8)	72	(11)	52	(8)	65	(10)	60	(9)	39	(6)	655	(12.6)
	т	38	(9)	46	(10)	41	(9)	36	(8)	30	(7)	28	(6)	46	(10)	35	(8)	36	(8)	29	(7)	35	(8)	42	(10)	442	(8.5)
	U	38	(10)	35	(10)	39	(11)	26	(7)	40	(11)	23	(6)	23	(6)	15	(4)	23	(6)	37	(10)	35	(10)	33	(9)	367	(7.0)
2006 T	otal	443	(8.5)	436	(8.4)	444	(8.5)	408	(7.8)	448	(8.6)	418	(8.0)	437	(8.4)	429	(8.2)	424	(8.1)	426	(8.2)	450	(8.6)	450	(8.6)	5,213	
Grand	Total	1,360	(8.6)	1,261	(8.0)	1,391	(8.8)	1,244	(7.9)	1,299	(8.3)	1,284	(8.2)	1,349	(8.6)	1,238	(7.9)	1,253	(8.0)	1,270	(8.1)	1,397	(8.9)	1,399	(8.9)	15,745	

Country	SUA	200	4	Yea	r	200	c	Tota	
Country	SHA	n 200	%	n 200	5 %	n 200	%	n	" %
<b>.</b>			(0.0)		(0.0)		(0.0)		(2.2)
Channel Islands	Guernsey (and Sark)	2	(0.0)	1	(0.0)	0	(0.0)	3 25	(0.0)
Channel Islands T	otal	8	(0.1)	18	(0.3)	2	(0.0)	28	(0.2)
England	Northumborland Tuno 9 Waar	0	(0, 0)	4	(0.1)	1	(0, 0)	-	(0.0)
England	County Durham and Tees Valley	3	(0.0)	4	(0.1)	0	(0.0)	5	(0.0)
	North and East Yorkshire and Northern Lincolnshire	12	(0.2)	11	(0.2)	11	(0.2)	34	(0.2)
	South Yorkshire	7	(0.1)	8	(0.2)	12	(0.2)	27	(0.2)
	West Yorkshire	7	(0.1)	17	(0.3)	4	(0.1)	28	(0.2)
	Cumbria and Lancashire	6	(0.1)	2	(0.0)	7	(0.1)	15	(0.1)
	Cheshire & Mersevside	13	(0.2)	5	(0.3)	9	(0.1)	27	(0.2)
	Trent	38	(0.7)	33	(0.6)	26	(0.5)	97	(0.6)
	Shropshire and Staffordshire	9	(0.2)	3	(0.1)	10	(0.2)	22	(0.1)
	Birmingham and the Black Country	7	(0.1)	8	(0.2)	6	(0.1)	21	(0.1)
	West Midlands South	3	(0.1)	8	(0.2)	14	(0.3)	25	(0.2)
	Norfolk, Suffolk and Cambridgeshire	44	(0.8)	402	(0.5)	413	(0.6)	1.286	(0.0)
	Essex	331	(6.2)	284	(5.5)	302	(5.8)	917	(5.8)
	Bedfordshire and Hertfordshire	385	(7.2)	408	(7.9)	391	(7.5)	1,184	(7.5)
	Thames Valley	134	(2.5)	160	(3.1)	123	(2.4)	417	(2.6)
	North East London	539	(10.0)	484	(9.4)	518	(9.9)	1,541	(9.8)
	North Vest London	479	(8.9)	543	(10.5)	486	(0.4)	1,022	(0.5)
	South West London	448	(8.3)	419	(8.1)	411	(7.9)	1,278	(8.1)
	South East London	514	(9.6)	501	(9.7)	509	(9.8)	1,524	(9.7)
	Kent and Medway	384	(7.1)	378	(7.3)	355	(6.8)	1,117	(7.1)
	Surrey and Sussex	750	(14.0)	691	(13.4)	707	(13.6)	2,148	(13.6)
ļ	Avon, Gloucestershire and Wiltshire	25	(0.5)	26	(0.5)	27	(0.5)	78	(1.4)
1	Dorset and Somerset	21	(0.4)	9	(0.2)	13	(0.2)	43	(0.3)
	South West Peninsula	9	(0.2)	6	(0.1)	9	(0.2)	24	(0.2)
England Total		5,083	(94.6)	4,851	(94.0)	4,815	(92.4)	14,749	(93.7)
Isle of Man	Isle of Man	0	(0.0)	0	(0.0)	1	(0.0)	1	(0.0)
Isle of Man Total		0	(0.0)	0	(0.0)	1	(0.0)	1	(0.0)
Northern Ireland	Eastern Health Board	3	(0.1)	3	(0.1)	0	(0.0)	6	(0.0)
	Northern Health Board	0	(0.0)	0	(0.0)	2	(0.0)	2	(0.0)
	Southern Health Board	4	(0.1)	1	(0.0)	7	(0.1)	12	(0.1)
	Western Health Board	0	(0.0)	1	(0.0)	4	(0.1)	5	(0.0)
Northern Ireland I	otal		(0.1)	5	(0.1)	13	(0.2)	25	(0.2)
Scotland	Argyll and Clyde	2	(0.0)	3	(0.1)	1	(0.0)	6	(0.0)
	Ayrshire & Arran	8	(0.1)	1	(0.0)	0	(0.0)	9	(0.1)
	Borders Dumfries and Galloway	2	(0.0)	0	(0.0)	0	(0.0)	2	(0.0)
	Fife	0	(0.0)	0	(0.0)	4	(0.1)	4	(0.0)
	Forth Valley	0	(0.0)	1	(0.0)	0	(0.0)	1	(0.0)
	Grampian	1	(0.0)	3	(0.1)	4	(0.1)	8	(0.1)
	Greater Glasgow	1	(0.0)	4	(0.1)	0	(0.0)	5	(0.0)
	l anarkshire	0	(0.0)	2	(0.0)	5	(0.0)	7	(0.0)
	Lothian	2	(0.0)	4	(0.1)	1	(0.0)	7	(0.0)
	Orkney	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
	Shetland	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
	Tayside Western Islas	1	(0.0)	2	(0.1)	2	(0.0)	10	(0.1)
Scotland Total	Western Blog	19	(0.4)	29	(0.6)	17	(0.3)	65	(0.4)
			(0.1)		(6 1)		(0.0)		
Wales Wales Total	Weish Health Authorities	24	(0.4)	23	(0.4)	18	(0.3)	65	(0.4)
		24	(0.4)	25	(0.4)	10	(0.3)	03	(0.4)
Non-UK / Missing	Unknown	231	(4.3)	234	(4.5)	347	(6.7)	812	(5.2)
NON-UK / Missing	I OTAI	231	(4.3)	234	(4.5)	347	(6.7)	812	(5.2)
Grand Total		5,372		5,160		5,213		15,745	

## Table 10a Admissions by 2004 SHA / HB and year, 2004 - 2006

# Table 10b Admissions by 2006 SHA / HB and year, 2004 - 2006

				Yea	r				
Country	SHA	200	4	200	5	200	6	Tota	ıl
-		n	%	n	%	n	%	n	%
Channel Islands	Guernsey (and Sark)	2	(0)	1	(0)	0	(0)	3	(0.0)
	Jersey	6	(0)	17	(0)	2	(0)	25	(0.2)
Channel Islands To	otal	8	(0.1)	18	(0.3)	2	(0.0)	28	(0.2)
England	East Midlands	82	(2)	58	(1)	57	(1)	197	(1.3)
	East of England	1,188	(22)	1,097	(21)	1,136	(22)	3,421	(21.7)
	London	2,333	(43)	2,287	(44)	2,280	(44)	6,900	(43.8)
	North East	3	(0)	6	(0)	1	(0)	10	(0.1)
	North West	32	(1)	22	(0)	23	(0)	77	(0.5)
	South Central	216	(4)	222	(4)	205	(4)	643	(4.1)
	South East Coast	1,136	(21)	1,073	(21)	1,065	(20)	3,274	(20.8)
	South West	55	(1)	41	(1)	50	(1)	146	(0.9)
	West Midlands	19	(0)	19	(0)	31	(1)	69	(0.4)
	Yorkshire and the Humber	26	(0)	36	(1)	29	(1)	91	(0.6)
England Total		5,090	(94.8)	4,861	(94.2)	4,877	(93.6)	14,828	(94.2)
•		· · ·		,		,	. ,		
Isle of Man	Isle of Man	0	(0)	0	(0)	1	(0)	1	(0.0)
Isle of Man Total		0	(0.0)	0	(0.0)	1	(0.0)	1	(0.0)
Northern Ireland	Eastern Health Board	3	(0)	3	(0)	0	(0)	6	(0.0)
	Northern Health Board	0	(0)	0	(0)	2	(0)	2	(0.0)
	Southern Health Board	4	(0)	1	(0)	7	(0)	12	(0.1)
	Western Health Board	0	(0)	1	(0)	4	(0)	5	(0.0)
Northern Ireland To	otal	7	(0.1)	5	(0,1)	13	(0.2)	25	(0.2)
			. ,		. ,		. ,		
Scotland	Argyll and Clyde	2	(0)	3	(0)	1	(0)	6	(0.0)
	Avrshire & Arran	8	(0)	1	(0)	0	(0)	9	(0.1)
	Borders	2	(0)	0	(0)	0	(0)	2	(0.0)
	Dumfries and Galloway	2	(0)	0	(0)	0	(0)	2	(0.0)
	Fife	0	(0)	0	(0)	4	(0)	4	(0.0)
	Forth Valley	0	(0)	1	(0)	0	(0)	1	(0.0)
	Grampian	1	(0)	5	(0)	5	(0)	11	(0.1)
	Greater Glasgow	1	(0)	4	(0)	0	(0)	5	(0.0)
	Highland	0	(0)	2	(0)	0	(0)	2	(0.0)
	Lanarkshire	0	(0)	2	(0)	5	(0)	7	(0.0)
	Lothian	2	(0)	4	(0)	1	(0)	7	(0.0)
	Tavside	1	(0)	7	(0)	2	(0)	10	(0.0)
	Western Isles		(0)	2	(0)	0	(0)	2	(0.1)
Scotland Total	Western Isies	19	(0 4)	31	(0)	18	(0 3)	68	(0.0)
		13	(0.4)	51	(0.0)	10	(0.3)	00	(0.4)
Wales	Welsh Health Authorities	24	(0)	23	(0)	18	(0)	65	(0.4)
Wales Total		24	(0 4)	23	(0 4)	18	(0,3)	65	(0 4)
		27	(0.7)	25	(0.7)	15	(0.0)		(0.4)
Non-UK / Missing	Unknown	224	(4)	222	(4)	284	(5)	730	(4.6)
Non-UK / Missing	Fotal	224	(4 2)	222	(4.3)	284	(5 4)	730	(4.6)
non ort, missing			()		(4.0)	204	(0.4)	100	(4.0)
Grand Total		5,372		5,160		5,213		15,745	

			Admissi	ons to pa	an Thames	s units				A	dmission	s to non-	pan Than	nes units						Tota	al			
Area of Residence	2004	1	200	5	2006	6	Total	1	2004	Ļ	2005		200	6	Total		2004		2005	5	2006	i	Tota	d I
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
pan Thames	4,657	(86.7)	4,457	(86.4)	4,481	(86.0)	13,595	(86.3)	126	(1.5)	144	(1.6)	138	(1.5)	408	(1.5)	4,783	(34.6)	4,601	(32.7)	4,619	(32.2)	14,003	(33.2)
Rest of UK	491	(9.1)	481	(9.3)	448	(8.6)	1,420	(9.0)	8,293	(98.0)	8,705	(97.9)	8,935	(98.0)	25,933	(97.9)	8,784	(63.5)	9,186	(65.4)	9,383	(65.5)	27,353	(64.8)
Non-UK	211	(3.9)	218	(4.2)	279	(5.4)	708	(4.5)	46	(0.5)	47	(0.5)	32	(0.4)	125	(0.5)	257	(1.9)	265	(1.9)	311	(2.2)	833	(2.0)
Unknown	13	(0.2)	4	(0.1)	5	(0.1)	22	(0.1)	1	(0.0)	0	(0.0)	9	(0.1)	10	(0.0)	14	(0.1)	4	(0.0)	14	(0.1)	32	(0.1)
Grand Total	5,372		5,160		5,213		15,745		8,466		8,896		9,114		26,476		13,838		14,056		14,327		42,221	

#### Table 10c Admissions showing UK and non-UK status based postal address by year, 2004 - 2006 (pan Thames and non-pan Thames admissions)

## Figure 10a Map showing 2006 PCO boundaries within 2004 SHA boundaries



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## Figure 10b Map showing 2006 PCO boundaries within 2006 SHA boundaries



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					P	IM Group							
Year	NHS Trust	<1%	6	1 - <	5%	5 - <1	5%	15	<30%	30%	<b>%</b> +	Tota	al
		n	%	n	%	n	%	n	%	n	%	n	%
2004	Α	112	(25)	270	(61)	54	(12)	4	(1)	3	(1)	443	(8.2)
	В	67	(24)	169	(59)	44	(15)	4	(1)	1	(0)	285	(5.3)
	E	260	(15)	845	(48)	495	(28)	127	(7)	51	(3)	1,778	(33.1)
	F	64	(5)	591	(51)	415	(36)	65	(6)	30	(3)	1,165	(21.7)
	н	52	(17)	157	(51)	77	(25)	11	(4)	11	(4)	308	(5.7)
	J	22	(27)	46	(56)	10	(12)	3	(4)	1	(1)	82	(1.5)
	0	82	(15)	396	(72)	57	(10)	12	(2)	6	(1)	553	(10.3)
	Т	109	(30)	178	(49)	59	(16)	16	(4)	4	(1)	366	(6.8)
	U	23	(6)	175	(45)	153	(39)	31	(8)	10	(3)	392	(7.3)
2004 T	otal	791	(14.7)	2,827	(52.6)	1,364	(25.4)	273	(5.1)	117	(2.2)	5,372	
2005	Α	112	(27)	217	(52)	79	(19)	8	(2)	4	(1)	420	(8.1)
	В	73	(31)	125	(54)	27	(12)	6	(3)	2	(1)	233	(4.5)
	E	155	(10)	759	(50)	446	(29)	112	(7)	43	(3)	1,515	(29.4)
	F	46	(4)	580	(52)	393	(35)	79	(7)	25	(2)	1,123	(21.8)
	Н	81	(24)	167	(50)	72	(21)	9	(3)	8	(2)	337	(6.5)
	J	28	(29)	57	(59)	11	(11)	0	(0)	0	(0)	96	(1.9)
	0	74	(12)	450	(73)	71	(12)	17	(3)	3	(0)	615	(11.9)
	т	143	(35)	182	(44)	70	(17)	14	(3)	4	(1)	413	(8.0)
	U	12	(3)	144	(35)	208	(51)	34	(8)	10	(2)	408	(7.9)
2005 T	otal	724	(14.0)	2,681	(52.0)	1,377	(26.7)	279	(5.4)	99	(1.9)	5,160	
2006	Α	101	(22)	234	(52)	99	(22)	13	(3)	2	(0)	449	(8.6)
	В	63	(28)	132	(58)	28	(12)	2	(1)	1	(0)	226	(4.3)
	E	122	(8)	818	(51)	518	(32)	93	(6)	49	(3)	1.600	(30.7)
	F	59	(5)	598	(55)	340	(31)	68	(6)	21	(2)	1.086	(20.8)
	Н	62	(20)	179	(57)	57	(18)	6	(2)	11	(3)	315	(6.0)
	J	21	(29)	36	(49)	14	(19)	1	(1)	1	(1)	73	(1.4)
	0	56	(9)	508	(78)	73	(11)	13	(2)	5	(1)	655	(12.6)
	т	127	(29)	204	(46)	93	(21)	13	(3)	5	(1)	442	(8.5)
	U	12	(3)	115	(31)	180	(49)	46	(13)	14	(4)	367	(7.0)
2006 T	otal	623	(12.0)	2,824	(54.2)	1,402	(26.9)	255	(4.9)	109	(2.1)	5,213	
Grand	Total	2 138	(13.6)	8 332	(52.9)	4 143	(26.3)	807	(5.1)	325	(2.1)	15 745	

Table 11 Admissions by mortality risk group by NHS trust, 2004 - 2006

Table 12 Admissions by admission	type and age	, 2004 - 20	06							
			A	ge Group (	Years)					
Admission Type	<1		1-4	1	5-1	0	11-1	5	Tota	ıl
	n	%	n	%	n	%	n	%	n	%
Planned - following surgery	2,310	(44)	1,589	(30)	757	(14)	612	(12)	5,268	(33.5)
Unplanned - following surgery	483	(55)	174	(20)	125	(14)	98	(11)	880	(5.6)
Planned - other	691	(61)	211	(19)	118	(10)	115	(10)	1,135	(7.2)
Unplanned - other	4,194	(50)	2,156	(26)	1,115	(13)	964	(11)	8,429	(53.5)
Unknown	16	(48)	8	(24)	6	(18)	3	(9)	33	(0.2)
Total	7.694	(48.9)	4.138	(26.3)	2.121	(13.5)	1.792	(11.4)	15.745	

Figure 12 Admissions by admission type, 2004 - 2006





		by dumberen type	<i>by</i> 1110 1 100, 20	2000	Admission Type								
Year	NHS Trust	Planned - followi	na suraerv	Unplanned - follow	ving surgery	Planned	- other	Unplanner	l - other	Unkr	nown	Tota	al.
		n	%	n	%	n	%	n	%	n	%	n	%
2004	Α	130	(29)	57	(13)	7	(2)	247	(56)	2	(0)	443	(8.2)
	В	81	(28)	36	(13)	22	(8)	146	(51)	0	(0)	285	(5.3)
	E	530	(30)	63	(4)	240	(13)	945	(53)	0	(0)	1,778	(33.1)
	F	392	(34)	98	(8)	25	(2)	650	(56)	0	(0)	1,165	(21.7)
	н	73	(24)	23	(7)	55	(18)	155	(50)	2	(1)	308	(5.7)
	J	29	(35)	6	(7)	2	(2)	45	(55)	0	(0)	82	(1.5)
	0	363	(66)	6	(1)	62	(11)	114	(21)	8	(1)	553	(10.3)
	т	126	(34)	30	(8)	12	(3)	198	(54)	0	(0)	366	(6.8)
	U	29	(7)	8	(2)	6	(2)	348	(89)	1	(0)	392	(7.3)
2004 T	otal	1,753	(32.6)	327	(6.1)	431	(8.0)	2,848	(53.0)	13	(0.2)	5,372	
2005	Α	129	(31)	35	(8)	11	(3)	245	(58)	0	(0)	420	(8.1)
	в	74	(32)	19	(8)	13	(6)	127	(55)	0	(0)	233	(4.5)
	E	472	(31)	56	(4)	138	(9)	849	(56)	0	(0)	1,515	(29.4)
	F	366	(33)	79	(7)	23	(2)	655	(58)	0	(0)	1,123	(21.8)
	н	100	(30)	23	(7)	63	(19)	148	(44)	3	(1)	337	(6.5)
	J	32	(33)	7	(7)	9	(9)	48	(50)	0	(0)	96	(1.9)
	0	381	(62)	5	(1)	83	(13)	135	(22)	11	(2)	615	(11.9)
	т	165	(40)	21	(5)	14	(3)	213	(52)	0	(0)	413	(8.0)
	U	14	(3)	7	(2)	5	(1)	380	(93)	2	(0)	408	(7.9)
2005 T	otal	1,733	(33.6)	252	(4.9)	359	(7.0)	2,800	(54.3)	16	(0.3)	5,160	
		(00	(22)		(10)	4.0	(0)		(50)		(0)		(0.0)
2006	A	132	(29)	44	(10)	13	(3)	260	(58)	0	(0)	449	(8.6)
	в	64	(28)	40	(18)	11	(5)	110	(49)	1	(0)	226	(4.3)
	E	4/8	(30)	99	(6)	94	(6)	929	(58)	0	(0)	1,600	(30.7)
	F	392	(36)	58	(5)	25	(2)	611	(56)	0	(0)	1,086	(20.8)
	н	100	(32)	16	(5)	72	(23)	124	(39)	3	(1)	315	(6.0)
	J	19	(26)	16	(22)	2	(3)	36	(49)	0	(0)	73	(1.4)
	0	423	(65)	3	(0)	114	(17)	115	(18)	0	(0)	655	(12.6)
	1	152	(34)	1/	(4)	10	(2)	263	(60)	0	(0)	442	(8.5)
	U	22	(6)	8	(2)	4	(1)	333	(91)	0	(0)	367	(7.0)
2006 T	otai	1,782	(34.2)	301	(5.8)	345	(6.6)	2,781	(53.3)	4	(0.1)	5,213	
Grand	Total	5.268	(33.5)	880	(5.6)	1.135	(7.2)	8.429	(53.5)	33	(0.2)	15.745	

					Admissi	on S	ource						
Year	NHS Trust	Same h	ospital	Other h	ospital	С	linic	н	ome	Unkn	nown	Tota	al
		n	%	n	%	n	%	n	%	n	%	n	%
0004		405		440	(45)	0	(0)	0	(4)	0	(0)	0.47	(0.7)
2004	A	135	(55)	110	(45)	0	(0)	2	(1)	0	(0)	247	(8.7)
	В	119	(82)	20	(14)	0	(0)	1	(5)	0	(0)	146	(5.1)
	E	222	(23)	706	(75)	1	(0)	16	(2)	0	(0)	945	(33.2)
	F	84	(13)	566	(87)	0	(0)	0	(0)	0	(0)	650	(22.8)
	н	/5	(48)	79	(51)	0	(0)	1	(1)	0	(0)	155	(5.4)
	J	42	(93)	3	(7)	0	(0)	0	(0)	0	(0)	45	(1.6)
	0	40	(35)	72	(63)	1	(1)	1	(1)	0	(0)	114	(4.0)
	T	84	(42)	109	(55)	0	(0)	5	(3)	0	(0)	198	(7.0)
	U	68	(20)	280	(80)	0	(0)	0	(0)	0	(0)	348	(12.2)
2004 T	otal	869	(30.5)	1,945	(68.3)	2	(0.1)	32	(1.1)	0	(0.0)	2,848	
2005	Δ	119	(49)	126	(51)	0	(0)	0	(0)	0	(0)	245	(8.8)
	B	115	(91)	8	(6)	0	(0)	4	(3)	0	(0)	127	(4.5)
	F	208	(24)	634	(75)	0	(0)	7	(0)	0	(0)	849	(30.3)
	F	105	(16)	550	(84)	0	(0)	0	(0)	0	(0)	655	(23.4)
	H	75	(51)	73	(49)	0	(0)	0	(0)	0	(0)	148	(5.3)
	J	48	(100)	0	(0)	0	(0)	0	(0)	0	(0)	48	(0.0)
	0	64	(47)	65	(48)	1	(1)	3	(2)	2	(1)	135	(4.8)
	Т	98	(46)	113	(53)	0	(0)	2	(1)	0	(0)	213	(7.6)
	U	74	(19)	303	(80)	0	(0)	0	(0)	3	(1)	380	(13.6)
2005 T	otal	906	(32.4)	1,872	(66.9)	1	(0.0)	16	(0.6)	5	(0.2)	2,800	(1010)
			. /		. ,		. ,				、 ,		
2006	Α	131	(50)	129	(50)	0	(0)	0	(0)	0	(0)	260	(9.3)
	В	100	(91)	8	(7)	0	(0)	2	(2)	0	(0)	110	(4.0)
	E	241	(26)	677	(73)	0	(0)	11	(1)	0	(0)	929	(33.4)
	F	149	(24)	462	(76)	0	(0)	0	(0)	0	(0)	611	(22.0)
	н	77	(62)	47	(38)	0	(0)	0	(0)	0	(0)	124	(4.5)
	J	34	(94)	2	(6)	0	(0)	0	(0)	0	(0)	36	(1.3)
	0	50	(43)	63	(55)	1	(1)	1	(1)	0	(0)	115	(4.1)
	Т	130	(49)	131	(50)	0	(0)	2	(1)	0	(0)	263	(9.5)
	U	63	(19)	270	(81)	0	(0)	0	(0)	0	(0)	333	(12.0)
2006 T	otal	975	(35.1)	1,789	(64.3)	1	(0.0)	16	(0.6)	0	(0.0)	2,781	
Grand	Total	2 750	(32.6)	5 606	(66 5)	4	(0 0)	64	(0.8)	5	(0 1)	8 429	

Table 14 Admissions by source of admission (admission type 'unplanned - other') by NHS trust, 2004 - 2006

Table	To Admissions	by care area adm	inted ironi (at	annaaion type unpian	ined - other, at		in nospital)	by 1410 (103), 2004 - 2000	Care Area												
Year	NHS Trust	Accident & em	nergency	HDU (step-up/step-	-down unit)	ICU / PIC	U / NICU	Other intermediate care area (not ICU	/ PICU / NICU)	Recove	ry only	Theatre and	recovery	Wa	rd	X-ray, endoscopy, CT scanner or sin	nilar	Unkno	own	Tota	al
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n %		n	%	n	%
2004	٨	00	(00)	0	(0)	4.4	(6)	4	(0)	0	(0)	7	(2)	02	(20)	2	(4)	55	(22)	245	/0 7
2004	B	69	(26)	0	(0)	14	(6)	4	(2)	0	(0)	5	(3)	93	(30)	3	(1)	0	(22)	245	(0.7
	F	214	(23)	11	(0)	325	(35)	02	(1)	1	(0)	11	(1)	257	(28)	15	(3)	2	(0)	028	(33.0
	F	214	(23)	28	(1)	152	(33)	3Z 2	(10)	0	(0)	25	(1)	207	(20)	15	(2)	213	(33)	650	(23.0
	H	56	(36)	5	(4)	7	(25)	13	(0)	0	(0)	5	(7)	66	(43)	2	(1)	215	(0)	154	(25.1
	 .l	29	(64)	1	(3)	0	(0)	0	(0)	0	(0)	2	(4)	12	(27)	0	(0)	1	(2)	45	(1.6
	0	11	(10)	9	(8)	32	(29)	9	(8)	0	(0)	4	(4)	36	(32)	6	(5)	5	(4)	112	(4.0
	T	49	(25)	1	(0)	3	(2)	4	(2)	1	(1)	. 8	(4)	80	(41)	0	(0)	47	(24)	193	(6.9
	ů.	128	(37)	15	(4)	17	(5)	2	(1)	0	(0)	15	(4)	94	(27)	0	(0)	77	(22)	348	(12.4
2004	Fotal	625	(22.2)	70	(2.5)	559	(19.9)	127	(4.5)	2	(0.1)	82	(2.9)	914	(32.5)	35	(1.2)	400	(14.2)	2.814	
			()		(===)		()		(,		(***)		(===)		(*=:*/		()		(	-,	-
2005	Α	77	(31)	1	(0)	15	(6)	2	(1)	0	(0)	3	(1)	62	(25)	1	(0)	84	(34)	245	(8.8)
	В	79	(64)	0	(0)	1	(1)	0	(0)	0	(0)	4	(3)	38	(31)	1	(1)	0	(0)	123	(4.4
	E	213	(25)	18	(2)	283	(34)	45	(5)	1	(0)	4	(0)	262	(31)	15	(2)	1	(0)	842	(30.3
	F	10	(2)	16	(2)	108	(16)	0	(0)	0	(0)	27	(4)	253	(39)	6	(1)	235	(36)	655	(23.6
	н	55	(37)	3	(2)	6	(4)	12	(8)	0	(0)	1	(1)	66	(45)	4	(3)	1	(1)	148	(5.3
	J	30	(63)	2	(4)	0	(0)	1	(2)	0	(0)	2	(4)	11	(23)	2	(4)	0	(0)	48	(1.7
	0	15	(12)	4	(3)	33	(26)	3	(2)	3	(2)	4	(3)	47	(36)	8	(6)	12	(9)	129	(4.6
	т	69	(33)	0	(0)	5	(2)	7	(3)	0	(0)	14	(7)	91	(43)	0	(0)	25	(12)	211	(7.6
	U	169	(45)	12	(3)	18	(5)	1	(0)	1	(0)	17	(5)	106	(28)	0	(0)	53	(14)	377	(13.6
2005	Fotal	717	(25.8)	56	(2.0)	469	(16.9)	71	(2.6)	5	(0.2)	76	(2.7)	936	(33.7)	37	(1.3)	411	(14.8)	2,778	-
2006	Α	60	(23)	0	(0)	19	(7)	2	(1)	0	(0)	2	(1)	173	(67)	0	(0)	4	(2)	260	(9.4
	В	58	(54)	0	(0)	1	(1)	0	(0)	0	(0)	0	(0)	46	(43)	2	(2)	1	(1)	108	(3.9
	E	213	(23)	16	(2)	336	(37)	63	(7)	0	(0)	19	(2)	261	(28)	9	(1)	1	(0)	918	(33.2
	F	24	(4)	15	(2)	76	(12)	1	(0)	0	(0)	19	(3)	286	(47)	4	(1)	186	(30)	611	(22.1
	н	49	(40)	1	(1)	1	(1)	8	(6)	1	(1)	1	(1)	59	(48)	3	(2)	1	(1)	124	(4.5
	J	19	(53)	1	(3)	0	(0)	0	(0)	0	(0)	0	(0)	16	(44)	0	(0)	0	(0)	36	(1.3
	0	6	(5)	5	(4)	10	(9)	39	(35)	1	(1)	6	(5)	42	(37)	4	(4)	0	(0)	113	(4.1
	т	70	(27)	2	(1)	3	(1)	2	(1)	1	(0)	8	(3)	110	(42)	0	(0)	65	(25)	261	(9.4
	U	198	(59)	13	(4)	15	(5)	0	(0)	0	(0)	13	(4)	94	(28)	0	(0)	0	(0)	333	(12.0
2006 1	fotal	697	(25.2)	53	(1.9)	461	(16.7)	115	115 (4.2)			68	(2.5)	1,087	(39.3)	22	(0.8)	258	(9.3)	2,764	
	Tara	0.000	(04.4)	170	(0.1)	4 400	(17.0)	010	(0.7)		(0.4)		(0.7)	0.007	(05.4)			4 000	(40.0)	0.050	
Grand	Iotai	2,039	(24.4)	179	(2.1)	1,489	(17.8)	313	(3.7)	10	(0.1)	226	(2.7)	2,937	(35.1)	94	(1.1)	1,069	(12.8)	8,356	

#### Table 15 Admissions by care area admitted from (admission type 'unplanned - other'; admitted from hospital) by NHS trust, 2004 - 2006

Table 16 Admissions by p	rimary diagn	ostic grou	p and age,	2004 - 200	6					
			A	ge Group (	(Years)					
Diagnostic Group	<1		1-4	i i	5-1	0	11-1	5	Tota	al
	n	%	n	%	n	%	n	%	n	%
Blood / lymphatic	17	(21)	24	(22)	12	(27)	20	(20)	152	(1.0)
Bioou / lymphatic	242	(31)	34	(22)	42	(27)	50	(20)	100	(1.0)
Body wall and cavilies	243	(00)	20	(9)	0	(3)	057	(Z)	202	(1.0)
Cardiovascular	3,232	(63)	1,071	(21)	469	(9)	357	(7)	5,129	(32.6)
Endocrine / metabolic	133	(38)	98	(28)	58	(16)	63	(18)	352	(2.2)
Gastrointestinal	678	(60)	233	(21)	119	(11)	93	(8)	1,123	(7.1)
Infection	251	(37)	224	(33)	113	(17)	90	(13)	678	(4.3)
Multisystem	27	(68)	6	(15)	6	(15)	1	(3)	40	(0.3)
Musculoskeletal	22	(7)	43	(14)	67	(22)	177	(57)	309	(2.0)
Neurological	508	(28)	667	(37)	364	(20)	267	(15)	1,806	(11.5)
Oncology	85	(14)	225	(37)	174	(28)	130	(21)	614	(3.9)
Respiratory	2,105	(54)	1,113	(29)	421	(11)	252	(6)	3,891	(24.7)
Trauma	42	(9)	135	(28)	142	(29)	169	(35)	488	(3.1)
Other	268	(35)	235	(30)	126	(16)	146	(19)	775	(4.9)
Unknown	53	(50)	28	(27)	12	(11)	12	(11)	105	(0.7)
Total	7 694	(48.9)	4 138	(26.3)	2 1 2 1	(13.5)	1 792	(11.4)	15 745	

Figure 16 Admissions by primary diagnostic group, 2004 - 2006



Table 17 Admissions by primary diagnostic group and age (16+), 2004 - 2006

			Age	Group (Y	ears	)				
Diagnostic Group	1	6	17	7-20	2	1-25	:	26+	То	tal
	n	%	n	%	n	%	n	%	n	%
Blood / lymphatic	2	(40)	3	(60)	0	(0)	0	(0)	5	(2.2)
Cardiovascular	42	(71)	16	(27)	0	(0)	1	(2)	59	(26.3)
Endocrine / metabolic	6	(86)	1	(14)	0	(0)	0	(0)	7	(3.1)
Gastrointestinal	6	(46)	7	(54)	0	(0)	0	(0)	13	(5.8)
Infection	5	(71)	2	(29)	0	(0)	0	(0)	7	(3.1)
Musculoskeletal	30	(68)	14	(32)	0	(0)	0	(0)	44	(19.6
Neurological	7	(70)	3	(30)	0	(0)	0	(0)	10	(4.5
Oncology	8	(73)	3	(27)	0	(0)	0	(0)	11	(4.9
Respiratory	33	(72)	13	(28)	0	(0)	0	(0)	46	(20.5
Trauma	4	(80)	1	(20)	0	(0)	0	(0)	5	(2.2
Other	11	(65)	5	(29)	0	(0)	1	(6)	17	(7.6
Total	154	(68.8)	68	(30.4)	0	(0.0)	2	(0.9)	224	

Figure 17 Admissions by primary diagnostic group, 2004 - 2006



-	10 / talillooloint	3 by primary	ulagnostic	group by Hire	7 (1031, 2004 -	2000						Die	anestia	Crown															1		
	NUIC Truck	Disc d ( bur		De de constituer		0		Forderedue (m		0		Dia	gnostic	Group						0		<b>D</b> !-		<b>T</b>		0.1				<b>T</b> - 1 - 1	
rear	NH5 Irust	Blood / lyr	npnatic	Body wall an	a cavities	Cardiov	ascular	Endocrine / n	netabolic	Gastroint	estinal	Intect	tion	wuitisy	stem	wusculose	eletal	Neuroi	ogical	Unco	logy	Respir	atory	Trau	ma	Uth	er	Unknow	n	Iotai	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n 🤊	•	n	%
			(0)		(0)	15	(0)		(0)	50	(10)		(0)		(0)	10	(1)		(0.4)	07	(45)		(45)		(=)		(0)	0	(0)		(0.0)
2004	A	/	(2)	11	(2)	15	(3)	14	(3)	52	(12)	26	(6)	2	(0)	16	(4)	94	(21)	67	(15)	68	(15)	30	(7)	39	(9)	2	(0)	443	(8.2)
	в	2	(1)	23	(8)	9	(3)	8	(3)	68	(24)	11	(4)	0	(0)	3	(1)	43	(15)	2	(1)	85	(30)	10	(4)	21	(7)	0	(0)	285	(5.3)
	E	9	(1)	33	(2)	686	(39)	39	(2)	126	(7)	47	(3)	3	(0)	45	(3)	146	(8)	51	(3)	472	(27)	56	(3)	65	(4)	0	(0)	1,778	(33.1)
	F	1	(0)	10	(1)	539	(46)	17	(1)	12	(1)	60	(5)	1	(0)	32	(3)	125	(11)	3	(0)	304	(26)	18	(2)	37	(3)	6	(1)	1,165	(21.7)
	н	7	(2)	5	(2)	14	(5)	12	(4)	62	(20)	3	(1)	0	(0)	2	(1)	57	(19)	10	(3)	43	(14)	41	(13)	52	(17)	0	(0)	308	(5.7)
	J	2	(2)	3	(4)	2	(2)	5	(6)	22	(27)	2	(2)	0	(0)	0	(0)	16	(20)	0	(0)	21	(26)	0	(0)	9	(11)	0	(0)	82	(1.5)
	0	0	(0)	2	(0)	480	(87)	0	(0)	5	(1)	4	(1)	0	(0)	9	(2)	2	(0)	2	(0)	42	(8)	1	(0)	3	(1)	3	(1)	553	(10.3)
	т	10	(3)	4	(1)	11	(3)	3	(1)	44	(12)	26	(7)	1	(0)	3	(1)	42	(11)	66	(18)	120	(33)	23	(6)	13	(4)	0	(0)	366	(6.8)
	U	9	(2)	2	(1)	7	(2)	18	(5)	10	(3)	45	(11)	0	(0)	0	(0)	90	(23)	1	(0)	171	(44)	4	(1)	17	(4)	18	(5)	392	(7.3)
2004	Fotal	47	(0.9)	93	(1.7)	1,763	(32.8)	116	(2.2)	401	(7.5)	224	(4.2)	7	(0.1)	110	(2.0)	615	(11.4)	202	(3.8)	1,326	(24.7)	183	(3.4)	256	(4.8)	29 (0	.5)	5,372	
2005	Α	8	(2)	8	(2)	9	(2)	12	(3)	39	(9)	15	(4)	2	(0)	17	(4)	88	(21)	60	(14)	95	(23)	28	(7)	38	(9)	1	(0)	420	(8.1)
	в	0	(0)	16	(7)	5	(2)	6	(3)	48	(21)	20	(9)	0	(0)	3	(1)	33	(14)	3	(1)	83	(36)	6	(3)	10	(4)	0	(0)	233	(4.5)
	E	12	(1)	42	(3)	549	(36)	33	(2)	96	(6)	55	(4)	3	(0)	30	(2)	159	(10)	42	(3)	370	(24)	64	(4)	60	(4)	0	(0)	1,515	(29.4)
	F	4	(0)	12	(1)	531	(47)	19	(2)	12	(1)	46	(4)	1	(0)	27	(2)	127	(11)	1	(0)	276	(25)	18	(2)	43	(4)	6	(1)	1,123	(21.8)
	н	9	(3)	5	(1)	2	(1)	13	(4)	75	(22)	13	(4)	0	(0)	1	(0)	65	(19)	12	(4)	52	(15)	23	(7)	66	(20)	1	(0)	337	(6.5)
	J	2	(2)	7	(7)	2	(2)	1	(1)	22	(23)	2	(2)	0	(0)	0	(0)	18	(19)	1	(1)	28	(29)	1	(1)	9	(9)	3	(3)	96	(1.9)
	0	0	(0)	3	(0)	516	(84)	1	(0)	7	(1)	6	(1)	0	(0)	3	(0)	4	(1)	3	(0)	53	(9)	0	(0)	6	(1)	13	(2)	615	(11.9)
	т	11	(3)	7	(2)	9	(2)	7	(2)	42	(10)	14	(3)	3	(1)	9	(2)	66	(16)	69	(17)	149	(36)	19	(5)	8	(2)	0	(0)	413	(8.0)
	U	13	(3)	0	(0)	13	(3)	12	(3)	13	(3)	45	(11)	0	(0)	0	(0)	85	(21)	0	(0)	198	(49)	3	(1)	18	(4)	8	(2)	408	(7.9)
2005	Total	59	(1.1)	100	(1.9)	1,636	(31.7)	104	(2.0)	354	(6.9)	216	(4.2)	9	(0.2)	90	(1.7)	645	(12.5)	191	(3.7)	1,304	(25.3)	162	(3.1)	258	(5.0)	32 (0	.6)	5,160	
							. ,				. ,		. ,				. ,				. /				. ,						
2006	Α	7	(2)	6	(1)	16	(4)	13	(3)	40	(9)	22	(5)	16	(4)	23	(5)	80	(18)	82	(18)	95	(21)	23	(5)	26	(6)	0	(0)	449	(8.6)
	в	2	(1)	5	(2)	7	(3)	10	(4)	38	(17)	13	(6)	2	(1)	2	(1)	30	(13)	2	(1)	69	(31)	8	(4)	30	(13)	8	(4)	226	(4.3)
	E	13	(1)	53	(3)	629	(39)	54	(3)	112	(7)	56	(4)	5	(0)	29	(2)	122	(8)	39	(2)	366	(23)	51	(3)	71	(4)	0	(0)	1,600	(30.7)
	F	3	(0)	4	(0)	501	(46)	21	(2)	18	(2)	55	(5)	1	(0)	39	(4)	97	(9)	2	(0)	290	(27)	14	(1)	35	(3)	6	(1)	1.086	(20.8)
	н	9	(3)	8	(3)	6	(2)	10	(3)	56	(18)	17	(5)	0	(0)	2	(1)	47	(15)	13	(4)	53	(17)	27	(9)	67	(21)	0	(0)	315	(6.0)
	J	2	(3)	7	(10)	2	(3)	1	(1)	22	(30)	3	(4)	0	(0)	0	(0)	5	(7)	3	(4)	22	(30)	2	(3)	4	(5)	0	(0)	73	(1.4)
	0	0	(0)	3	(0)	536	(82)	1	(0)	18	(3)	9	(1)	0	(0)	8	(1)	0	(0)	9	(1)	47	(7)	0	(0)	2	(0)	22	(3)	655	(12.6)
1	т	2	(0)	2	(0)	9	(2)	10	(2)	52	(12)	28	(6)	0	(0)	6	(1)	64	(14)	70	(16)	163	(37)	16	(4)	19	(4)	1	(0)	442	(8.5)
1	U	9	(2)	1	(0)	24	(7)	12	(3)	12	(3)	35	(10)	0	(0)	0	(0)	101	(28)	1	(0)	156	(43)	2	(1)	7	(2)	7	(2)	367	(7.0)
2006	- Total	47	(0.9)	89	(1.7)	1.730	(33.2)	132	(2.5)	368	(7.1)	238	(4.6)	24	(0.5)	109	(2,1)	546	(10.5)	221	(4.2)	1.261	(24.2)	143	(2.7)	261	(5.0)	44 (0	.8)	5.213	(110)
			(0.0)		()	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(2012)		(2.0)	500					(2/0)		,,	510	(			.,	,/	. /0	<u></u>		(210)	(•	,	-,	
Grand	Total	153	(1.0)	282	(1.8)	5.129	(32.6)	352	(2.2)	1.123	(7.1)	678	(4.3)	40	(0.3)	309	(2.0)	1.806	(11.5)	614	(3.9)	3.891	(24.7)	488	(3.1)	775	(4.9)	105 (0	.7) 1	15.745	

### Table 18 Admissions by primary diagnostic group by NHS trust, 2004 - 2006

				5 1 4		5 11						Diag	gnostic	Group															T		
Year	NHS Trust	Blood / lyn	nphatic	Body wall and	l cavities	Cardiova	ascular	Endocrine / n	netabolic	Gastroint	estinal	Infe	ction	Multisy	stem	Musculos	keletal	Neurol	ogical	Onco	logy	Respir	atory	Tra	uma	Oth	er	Unkr	nown	Tota	al
		n	· %	'n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n .	%	n	%	n	%	n	%	n	%
2004	A	2	(2)	4	(3)	4	(3)	4	(3)	18	(14)	1	(1)	2	(2)	13	(10)	23	(18)	37	(28)	9	(7)	0	(0)	11	(8)	2	(2)	130	(7.4)
	В	1	(1)	13	(16)	0	(0)	0	(0)	38	(47)	0	(0)	0	(0)	2	(2)	5	(6)	0	(0)	12	(15)	1	(1)	9	(11)	0	(0)	81	(4.6)
	E	2	(0)	2	(0)	338	(64)	2	(0)	35	(7)	4	(1)	0	(0)	37	(7)	9	(2)	20	(4)	66	(12)	1	(0)	14	(3)	0	(0)	530	(30.2)
	F	0	(0)	1	(0)	308	(79)	0	(0)	6	(2)	0	(0)	0	(0)	29	(7)	0	(0)	0	(0)	35	(9)	0	(0)	13	(3)	0	(0)	392	(22.4)
	н	0	(0)	1	(1)	4	(5)	1	(1)	25	(34)	1	(1)	0	(0)	1	(1)	5	(7)	8	(11)	6	(8)	1	(1)	20	(27)	0	(0)	73	(4.2)
	J	0	(0)	3	(10)	0	(0)	0	(0)	13	(45)	1	(3)	0	(0)	0	(0)	6	(21)	0	(0)	4	(14)	0	(0)	2	(7)	0	(0)	29	(1.7)
	0	0	(0)	2	(1)	337	(93)	0	(0)	3	(1)	2	(1)	0	(0)	2	(1)	0	(0)	1	(0)	12	(3)	0	(0)	3	(1)	1	(0)	363	(20.7)
	т	4	(3)	3	(2)	2	(2)	0	(0)	27	(21)	4	(3)	1	(1)	3	(2)	20	(16)	30	(24)	26	(21)	3	(2)	3	(2)	0	(0)	126	(7.2)
	U	0	(0)	1	(3)	0	(0)	0	(0)	5	(17)	1	(3)	0	(0)	0	(0)	1	(3)	0	(0)	14	(48)	1	(3)	4	(14)	2	(7)	29	(1.7)
2004	Total	9	(0.5)	30	(1.7)	993	(56.6)	7	(0.4)	170	(9.7)	14	(0.8)	3	(0.2)	87	(5.0)	69	(3.9)	96	(5.5)	184	(10.5)	7	(0.4)	79	(4.5)	5	(0.3)	1,753	
2005	Α	2	(2)	4	(3)	1	(1)	0	(0)	14	(11)	2	(2)	0	(0)	13	(10)	17	(13)	38	(29)	19	(15)	1	(1)	18	(14)	0	(0)	129	(7.4)
	в	0	(0)	9	(12)	1	(1)	1	(1)	32	(43)	2	(3)	0	(0)	2	(3)	1	(1)	1	(1)	19	(26)	0	(0)	6	(8)	0	(0)	74	(4.3)
	E	2	(0)	6	(1)	330	(70)	0	(0)	24	(5)	4	(1)	2	(0)	22	(5)	18	(4)	14	(3)	36	(8)	0	(0)	14	(3)	0	(0)	472	(27.2)
	F	0	(0)	3	(1)	297	(81)	0	(0)	7	(2)	1	(0)	0	(0)	26	(7)	0	(0)	0	(0)	18	(5)	0	(0)	14	(4)	0	(0)	366	(21.1)
	Н	0	(0)	2	(2)	1	(1)	1	(1)	45	(45)	3	(3)	0	(0)	0	(0)	8	(8)	7	(7)	4	(4)	0	(0)	29	(29)	0	(0)	100	(5.8)
	J	1	(3)	1	(3)	0	(0)	0	(0)	15	(47)	1	(3)	0	(0)	0	(0)	2	(6)	0	(0)	4	(13)	0	(0)	5	(16)	3	(9)	32	(1.8)
	0	0	(0)	2	(1)	351	(92)	1	(0)	6	(2)	2	(1)	0	(0)	2	(1)	1	(0)	2	(1)	11	(3)	0	(0)	1	(0)	2	(1)	381	(22.0)
	т	7	(4)	7	(4)	1	(1)	0	(0)	25	(15)	4	(2)	3	(2)	8	(5)	18	(11)	46	(28)	38	(23)	5	(3)	3	(2)	0	(0)	165	(9.5)
	U	3	(21)	0	(0)	1	(7)	0	(0)	4	(29)	1	(7)	0	(0)	0	(0)	1	(7)	0	(0)	4	(29)	0	(0)	0	(0)	0	(0)	14	(0.8)
2005	Total	15	(0.9)	34	(2.0)	983	(56.7)	3	(0.2)	172	(9.9)	20	(1.2)	5	(0.3)	73	(4.2)	66	(3.8)	108	(6.2)	153	(8.8)	6	(0.3)	90	(5.2)	5	(0.3)	1,733	
	-				(-)				(-)		(		(=)		(-)		(1.2)		(		()		(-)		(2)		(2)		1.01		
2006	Α	1	(1)	2	(2)	1	(1)	2	(2)	13	(10)	2	(2)	4	(3)	16	(12)	17	(13)	51	(39)	11	(8)	4	(3)	8	(6)	0	(0)	132	(7.4)
	в	0	(0)	2	(3)	1	(2)	0	(0)	20	(31)	5	(8)	0	(0)	0	(0)	1	(2)	0	(0)	14	(22)	4	(6)	15	(23)	2	(3)	64	(3.6)
	E	0	(0)	8	(2)	366	(77)	2	(0)	23	(5)	0	(0)	0	(0)	21	(4)	6	(1)	12	(3)	32	(7)	1	(0)	7	(1)	0	(0)	478	(26.8)
	F	0	(0)	0	(0)	321	(82)	0	(0)	5	(1)	0	(0)	0	(0)	37	(9)	0	(0)	1	(0)	22	(6)	1	(0)	4	(1)	1	(0)	392	(22.0)
	н	2	(2)	5	(5)	3	(3)	1	(1)	23	(23)	2	(2)	0	(0)	1	(1)	6	(6)	9	(9)	5	(5)	0	(0)	43	(43)	0	(0)	100	(5.6)
	J	0	(0)	4	(21)	0	(0)	0	(0)	11	(58)	0	(0)	0	(0)	0	(0)	0	(0)	2	(11)	0	(0)	0	(0)	2	(11)	0	(0)	19	(1.1)
	0	0	(0)	3	(1)	379	(90)	1	(0)	16	(4)	1	(0)	0	(0)	3	(1)	0	(0)	8	(2)	11	(3)	0	(0)	1	(0)	0	(0)	423	(23.7)
	Т	1	(1)	1	(1)	0	(0)	0	(0)	33	(22)	1	(1)	0	(0)	3	(2)	19	(13)	48	(32)	27	(18)	5	(3)	13	(9)	1	(1)	152	(8.5)
	U	1	(5)	1	(5)	1	(5)	0	(0)	4	(18)	2	(9)	0	(0)	0	(0)	0	(0)	1	(5)	12	(55)	0	(0)	0	(0)	0	(0)	22	(1.2)
2006	Total	5	(0.3)	26	(1.5)	1,072	(60.2)	6	(0.3)	148	(8.3)	13	(0.7)	4	(0.2)	81	(4.5)	49	(2.7)	132	(7.4)	134	(7.5)	15	(0.8)	93	(5.2)	4	(0.2)	1,782	
Gran	d Total	29	(0.6)	90	(1.7)	3,048	(57.9)	16	(0.3)	490	(9.3)	47	(0.9)	12	(0.2)	241	(4.6)	184	(3.5)	336	(6.4)	471	(8.9)	28	(0.5)	262	(5.0)	14	(0.3)	5,268	

#### Table 19 Admissions by primary diagnostic group (planned - following surgery) by NHS trust, 2004 - 2006

				<b>9</b> 1 ( 1		0.0						Diagn	ostic G	iroup															
Year	NHS Trust	Blood / lym	nphatic	Body wall an	nd cavities	Cardiov	ascular	Endocrine / I	metabolic	Gastroin	testinal	Infec	tion	Multisy	/stem	Musculos	keletal	Neurolo	ogical	Onco	logy	Respir	atory	Tra	uma C	ther	Unkn	own	Т
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	% n	%	n	%	n
2004	Α	1	(2)	3	(5)	0	(0)	0	(0)	11	(19)	1	(2)	0	(0)	2	(4)	16	(28)	7	(12)	3	(5)	4	(7) 9	(16)	0	(0)	57
	В	0	(0)	4	(11)	0	(0)	0	(0)	14	(39)	3	(8)	0	(0)	1	(3)	2	(6)	0	(0)	7	(19)	1	(3) 4	(11)	0	(0)	36
	E	1	(2)	0	(0)	8	(13)	0	(0)	10	(16)	2	(3)	0	(0)	2	(3)	7	(11)	11	(17)	20	(32)	0	(0) 2	(3)	0	(0)	63
	F	0	(0)	4	(4)	68	(69)	1	(1)	0	(0)	1	(1)	0	(0)	0	(0)	3	(3)	0	(0)	18	(18)	1	(1) 1	(1)	1	(1)	98
	н	1	(4)	2	(9)	0	(0)	2	(9)	3	(13)	0	(0)	0	(0)	0	(0)	3	(13)	0	(0)	3	(13)	2	(9) 7	(30)	0	(0)	23
	J	1	(17)	0	(0)	0	(0)	0	(0)	3	(50)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(17)	0	(0) 1	(17)	0	(0)	6
	0	0	(0)	0	(0)	4	(67)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(17)	1	(17)	0	(0) 0	(0)	0	(0)	6
	T	2	(7)	0	(0)	0	(0)	0	(0)	11	(37)	2	(7)	0	(0)	0	(0)	3	(10)	3	(10)	6	(20)	2	(7) 1	(3)	0	(0)	30
	U	0	(0)	0	(0)	1	(13)	0	(0)	3	(38)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	4	(50)	0	(0) 0	(0)	0	(0)	8
2004	lotal	6	(1.8)	13	(4.0)	81	(24.8)	3	(0.9)	55	(16.8)	9	(2.8)	0	(0.0)	5	(1.5)	34	(10.4)	22	(6.7)	63	(19.3)	10	(3.1) 25	(7.6)	1	(0.3)	327
2005		0	(0)	1	(2)	0	(6)	0	(0)	ő	(22)	1	(2)	0	(0)	0	(0)	44	(21)	2	(0)	E	(1.4)	1	(2) 2	(0)		(0)	25
2005	A	0	(0)	1	(3)	2	(6)	0	(0)	8	(23)	2	(3)	0	(0)	0	(0)	11	(31)	3	(9)	5	(14)	1	(3) 3	(9)	0	(0)	35
	E	1	(0)	3	(10)	0	(14)	0	(0)	4	(21)	2	(10)	0	(0)	0	(0)	4	(3)	6	(11)	14	(37)	0	(0) 5	(0)	0	(0)	19
	5	0	(2)	2	(2)	65	(14)	2	(4)	13	(23)	2	(4)	0	(0)	0	(0)	4	(7)	1	(11)	7	(25)	0	(0) 5	(9)	0	(0)	70
	L	0	(0)	1	(4)	00	(02)	0	(0)	4	(1)	2	(1)	0	(0)	0	(0)	4	(17)	2	(1)	6	(3)	0	(0) 1	(17)	0	(0)	22
	1	0	(0)	2	(29)	0	(0)	0	(0)	4	(57)	2	(0)	0	(0)	0	(0)	4	(17)	0	(0)	0	(20)	0	(0) 4	(14)	0	(0)	23
	0	0	(0)	2	(23)	3	(0)	0	(0)	4	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(20)	1	(20)	0	(0) 1	(14)	0	(0)	5
	т	0	(0)	0	(0)	2	(10)	0	(0)	8	(38)	0	(0)	0	(0)	1	(5)	1	(5)	2	(10)	5	(24)	0	(0) 2	(10)	0	(0)	21
	U	0	(0)	0	(0)	0	(0)	0	(0)	5	(71)	0	(0)	0	(0)		(0)	0	(0)	0	(0)	2	(29)	0	(0) 0	(0)	0	(0)	7
2005	Total	1	(0 4)	11	(4 4)	81	(32 1)	2	(0.8)	47	(18.7)	ğ	(3.6)	ő	(0 0)	1	(0 4)	21	(8.3)	15	(60)	47	(18.7)	1	(04) 16	(6.3)	<u> </u>	(0 0)	252
2000	otai	· ·	(011)		()	•	(02.1.)	-	(0.0)		(1011)	v	(0.0)	v	(0.0)		(011)		(0.0)		(0.0)		(1011)		(014) 10	(0.0)		(0.0)	
2006	Α	1	(2)	0	(0)	1	(2)	0	(0)	13	(30)	3	(7)	3	(7)	2	(5)	5	(11)	6	(14)	6	(14)	2	(5) 2	(5)	0	(0)	44
	в	0	(0)	1	(3)	0	(0)	1	(3)	10	(25)	3	(8)	0	(0)	2	(5)	0	(0)	1	(3)	14	(35)	2	(5) 5	(13)	1	(3)	40
	E	1	(1)	3	(3)	18	(18)	3	(3)	19	(19)	3	(3)	0	(0)	3	(3)	7	(7)	7	(7)	23	(23)	1	(1) 11	(11)	0	(0)	99
	F	1	(2)	0	(0)	48	(83)	1	(2)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	7	(12)	0	(0) 0	(0)	1	(2)	58
	Н	1	(6)	1	(6)	0	(0)	0	(0)	4	(25)	2	(13)	0	(0)	1	(6)	2	(13)	1	(6)	1	(6)	0	(0) 3	(19)	0	(0)	16
	J	1	(6)	3	(19)	0	(0)	1	(6)	6	(38)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	4	(25)	1	(6) 0	(0)	0	(0)	16
	0	0	(0)	0	(0)	2	(67)	0	(0)	1	(33)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0) 0	(0)	0	(0)	3
	т	0	(0)	1	(6)	2	(12)	0	(0)	6	(35)	1	(6)	0	(0)	0	(0)	1	(6)	2	(12)	3	(18)	0	(0) 1	(6)	0	(0)	17
	U	0	(0)	0	(0)	1	(13)	0	(0)	2	(25)	2	(25)	0	(0)	0	(0)	0	(0)	0	(0)	3	(38)	0	(0) 0	(0)	0	(0)	8
2006	Total	5	(1.7)	9	(3.0)	72	(23.9)	6	(2.0)	61	(20.3)	14	(4.7)	3	(1.0)	8	(2.7)	15	(5.0)	17	(5.6)	61	(20.3)	6	(2.0) 22	(7.3)	2	(0.7)	301
																												-	
Grand	Total	12	(1.4)	33	(3.8)	234	(26.6)	11	(1.3)	163	(18.5)	32	(3.6)	3	(0.3)	14	(1.6)	70	(8.0)	54	(6.1)	171	(19.4)	17	(1.9) 63	(7.2)	3	(0.3)	880

#### Table 20 Admissions by primary diagnostic group (upplanned - following surgery) by NHS trust 2004 - 2006

Total %

(17.4)

(17.4) (11.0) (19.3) (30.0) (7.0) (1.8) (1.8) (9.2) (2.4)

(13.9) (7.5) (22.2) (31.3) (9.1) (2.8) (2.0) (8.3) (2.8)

(14.6) (13.3) (32.9) (19.3) (5.3) (5.3) (1.0) (5.6) (2.7)

				0 1 1			1					Diagr	ostic	Group																
Year	NHS Trust	Blood / lyn	nphatic	Body wall and	l cavities	Cardiov	ascular	Endocrine /	metabolic	Gastroin	testinal	Infect	tion	Multisy	stem	Musculos	skeletal	Neurol	ogical	Oncolo	gy	Respira	atory	Tra	uma	Ot	her	Unknow	n	Total
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n %	, D	n %
2004	Α	0	(0)	1	(14)	0	(0)	0	(0)	2	(29)	0	(0)	0	(0)	0	(0)	0	(0)	2	(29)	1	(14)	0	(0)	1	(14)	0	(0)	7 (1.
	В	0	(0)	5	(23)	1	(5)	0	(0)	7	(32)	0	(0)	0	(0)	0	(0)	2	(9)	1	(5)	4	(18)	0	(0)	2	(9)	0	(0)	22 (5.
	E	2	(1)	9	(4)	122	(51)	0	(0)	11	(5)	2	(1)	0	(0)	2	(1)	14	(6)	5	(2)	62	(26)	0	(0)	11	(5)	0	(0)	240 (55.
	F	0	(0)	0	(0)	10	(40)	0	(0)	1	(4)	0	(0)	0	(0)	1	(4)	0	(0)	1	(4)	10	(40)	0	(0)	2	(8)	0	(0)	25 (5.
	н	2	(4)	1	(2)	1	(2)	4	(7)	19	(35)	0	(0)	0	(0)	1	(2)	9	(16)	1	(2)	4	(7)	8	(15)	5	(9)	0	(0)	55 (12.
	J	1	(50)	0	(0)	0	(0)	0	(0)	1	(50)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	2 (0.
	0	0	(0)	0	(0)	48	(77)	0	(0)	1	(2)	0	(0)	0	(0)	4	(6)	1	(2)	0	(0)	7	(11)	0	(0)	0	(0)	1	(2)	62 (14.
	т	0	(0)	0	(0)	2	(17)	0	(0)	0	(0)	3	(25)	0	(0)	0	(0)	0	(0)	2	(17)	5	(42)	0	(0)	0	(0)	0	(0)	12 (2.
	U	0	(0)	0	(0)	0	(0)	0	(0)	1	(17)	0	(0)	0	(0)	0	(0)	2	(33)	0	(0)	2	(33)	0	(0)	1	(17)	0	(0)	<u> </u>
2004	Total	5	(1.2)	16	(3.7)	184	(42.7)	4	(0.9)	43	(10.0)	5	(1.2)	0	(0.0)	8	(1.9)	28	(6.5)	12 (	2.8)	95	(22.0)	8	(1.9)	22	(5.1)	1 (0	.2)	431
			(0)		(0)		(0)		(0)		(0)		(0)		(0)		(0)		(07)		(45)		(0)		(0)		(0)		(0)	
2005	A	0	(0)	0	(0)	1	(9)	0	(0)	0	(0)	0	(0)	0	(0)	1	(9)	3	(27)	5	(45)	0	(0)	0	(0)	1	(9)	0	(0)	11 (3.
	в	0	(0)	1	(8)	0	(0)	0	(0)	5	(38)	1	(8)	0	(0)	1	(8)	0	(0)	0	(0)	4	(31)	0	(0)	1	(8)	0	(0)	13 (3.
	E	2	(1)	8	(6)	60	(43)	0	(0)	2	(1)	1	(1)	0	(0)	3	(2)	7	(5)	4	(3)	43	(31)	3	(2)	5	(4)	0	(0)	138 (38.
	F	1	(4)	1	(4)	8	(35)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	8	(35)	0	(0)	4	(17)	1	(4)	23 (6.
	н	7	(11)	2	(3)	1	(2)	4	(6)	8	(13)	2	(3)	0	(0)	0	(0)	11	(17)	1	(2)	7	(11)	8	(13)	12	(19)	0	(0)	63 (17.
	J	0	(0)	4	(44)	0	(0)	0	(0)	2	(22)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(11)	0	(0)	2	(22)	0	(0)	9 (2.
	0	0	(0)	0	(0)	63	(76)	0	(0)	0	(0)	1	(1)	0	(0)	0	(0)	1	(1)	0	(0)	15	(18)	0	(0)	2	(2)	1	(1)	83 (23.
	Т	1	(7)	0	(0)	0	(0)	0	(0)	0	(0)	1	(7)	0	(0)	0	(0)	0	(0)	1	(7)	9	(64)	1	(7)	1	(7)	0	(0)	14 (3.
	U	0	(0)	0	(0)	1	(20)	0	(0)	0	(0)	1	(20)	0	(0)	0	(0)	0	(0)	0	(0)	2	(40)	0	(0)	1	(20)	0	(0)	5 (1.
2005	Total	11	(3.1)	16	(4.5)	134	(37.3)	4	(1.1)	17	(4.7)	7	(1.9)	0	(0.0)	5	(1.4)	22	(6.1)	11 (	3.1)	89	(24.8)	12	(3.3)	29	(8.1)	2 (0	.6)	359
2006	٨	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	2	(1E)	4	(0)	4	(21)	2	(15)	2	(00)	1	(0)	0	(0)	0	(0)	12 /2
2000	R	0	(0)	1	(0)	1	(0)	0	(0)	0	(0)	0	(0)	2	(15)	1	(0)	4	(31)	2	(15)	2	(23)	0	(0)	1	(0)	1	(0)	13 (3.
	E	0	(0)	1	(9)	25	(9)	1	(0)	2	(10)	2	(0)	2	(0)	1	(0)	6	(9)	2	(9)	22	(27)	1	(0)	0	(9)	0	(9)	04 (3.
	E	0	(0)	4	(4)	30	(37)	0	(1)	0	(0)	3	(3)	3	(3)	2	(1)	0	(0)	3	(3)	23	(24)	0	(1)	0	(30)	0	(0)	94 (27. 25 (7
	r u	5	(0)	2	(4)	1	(20)	0	(0)	4	(10)	1	(0)	0	(0)	2	(0)	16	(0)	1	(4)	6	(20)	7	(0)	5	(20)	0	(0)	25 (7.
	-	5	(7)	2	(3)	0	(1)	2	(3)	19	(20)	1	(1)	0	(0)	0	(0)	10	(22)	0	(1)	9	(13)	0	(10)	9	(13)	0	(0)	72 (20.
	J	0	(0)	0	(0)	0	(0)	0	(0)	1	(50)	4	(50)	0	(0)	0	(0)	0	(0)	0	(0)	47	(0)	0	(0)	0	(0)	0	(0)	2 (0.
	U T	0	(0)	0	(0)	89	(78)	0	(0)	0	(0)	1	(1)	0	(0)	2	(2)	0	(0)	1	(1)	17	(15)	0	(0)	1	(1)	3	(3)	114 (33.
1		0	(0)	0	(0)	1	(10)	0	(0)	1	(10)	0	(0)	0	(0)	1	(10)	0	(0)	0	(10)	4	(40)	2	(20)	0	(0)	0	(0)	10 (2.
0000	U	1	(25)	0	(0)	0	(0)	0	(0)	1	(25)	0	(0)	0	(0)	0	(0)	0	(0)	10 (	(0)	2	(00)	0	(0)	0	(0)	0	(0)	4 (1.
2006	Iotai	6	(1.7)	8	(2.3)	132	(38.3)	3	(0.9)	34	(9.9)	6	(1.7)	5	(1.4)	1	(2.0)	27	(7.8)	10 (	2.9)	68	(19.7)	TI	(3.2)	24	(7.0)	4 (1	.2)	340
Grand	Total	22	(1.9)	40	(3.5)	450	(39.6)	11	(1.0)	94	(8.3)	18	(1.6)	5	(0.4)	20	(1.8)	77	(6.8)	33 (	2 9)	252	(22.2)	31	(2.7)	75	(6.6)	7 (0	6)	1 1 3 5

#### Table 21 Admissions by primary diagnostic group (planned - other) by NHS trust, 2004 - 2006

Table 22 Admissions	by primar	v diagnostic g	roun (unnlanned	- other) by	NHS trust	2004 - 2006
Table 22 Autilissions	by primar	y diagnostic gi	oup (unplanneu	- ouler) b	y inna irusi,	2004 - 2000

												D	iagnosti	c Group	)																
Year	NHS Trust	Blood / ly	mphatic	Body wall an	nd cavities	Cardiov	ascular	Endocrine / I	metabolic	Gastroint	estinal	Infe	ection	Multisy	ystem	Musculos	keletal	Neuro	logical	Onco	ology	Respir	atory	Trau	ıma	Oth	er	Unkr	own	Tota	al
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
2004	Α	3	(1)	3	(1)	11	(4)	10	(4)	20	(8)	24	(10)	0	(0)	1	(0)	55	(22)	21	(9)	55	(22)	26	(11)	18	(7)	0	(0)	247	(8.7)
	В	1	(1)	1	(1)	8	(5)	8	(5)	9	(6)	8	(5)	0	(0)	0	(0)	34	(23)	1	(1)	62	(42)	8	(5)	6	(4)	0	(0)	146	(5.1)
	E	4	(0)	22	(2)	218	(23)	37	(4)	70	(7)	39	(4)	3	(0)	4	(0)	116	(12)	15	(2)	324	(34)	55	(6)	38	(4)	0	(0)	945	(33.2)
	F	1	(0)	5	(1)	153	(24)	16	(2)	5	(1)	59	(9)	1	(0)	2	(0)	122	(19)	2	(0)	241	(37)	17	(3)	21	(3)	5	(1)	650	(22.8)
	н	4	(3)	1	(1)	9	(6)	5	(3)	15	(10)	2	(1)	0	(0)	0	(0)	39	(25)	1	(1)	30	(19)	30	(19)	19	(12)	0	(0)	155	(5.4)
	J	0	(0)	0	(0)	2	(4)	5	(11)	5	(11)	1	(2)	0	(0)	0	(0)	10	(22)	0	(0)	16	(36)	0	(0)	6	(13)	0	(0)	45	(1.6)
	0	0	(0)	0	(0)	85	(75)	0	(0)	1	(1)	2	(2)	0	(0)	3	(3)	1	(1)	0	(0)	20	(18)	1	(1)	0	(0)	1	(1)	114	(4.0)
	т	4	(2)	1	(1)	7	(4)	3	(2)	6	(3)	17	(9)	0	(0)	0	(0)	19	(10)	31	(16)	83	(42)	18	(9)	9	(5)	0	(0)	198	(7.0)
	U	9	(3)	1	(0)	6	(2)	18	(5)	1	(0)	44	(13)	0	(0)	0	(0)	87	(25)	1	(0)	151	(43)	3	(1)	12	(3)	15	(4)	348	(12.2)
2004	Total	26	(0.9)	34	(1.2)	499	(17.5)	102	(3.6)	132	(4.6)	196	(6.9)	4	(0.1)	10	(0.4)	483	(17.0)	72	(2.5)	982	(34.5)	158	(5.5)	129	(4.5)	21	(0.7)	2,848	
2005	Α	6	(2)	3	(1)	5	(2)	12	(5)	17	(7)	12	(5)	2	(1)	3	(1)	57	(23)	14	(6)	71	(29)	26	(11)	16	(7)	1	(0)	245	(8.8)
	В	0	(0)	3	(2)	3	(2)	5	(4)	7	(6)	14	(11)	0	(0)	0	(0)	31	(24)	2	(2)	53	(42)	6	(5)	3	(2)	0	(0)	127	(4.5)
	E	7	(1)	27	(3)	151	(18)	31	(4)	57	(7)	48	(6)	1	(0)	5	(1)	130	(15)	18	(2)	277	(33)	61	(7)	36	(4)	0	(0)	849	(30.3)
	F	3	(0)	5	(1)	161	(25)	19	(3)	4	(1)	44	(7)	1	(0)	1	(0)	127	(19)	0	(0)	243	(37)	18	(3)	24	(4)	5	(1)	655	(23.4)
	н	1	(1)	0	(0)	0	(0)	8	(5)	18	(12)	6	(4)	0	(0)	1	(1)	42	(28)	2	(1)	34	(23)	14	(9)	21	(14)	1	(1)	148	(5.3)
	J	1	(2)	0	(0)	2	(4)	1	(2)	1	(2)	1	(2)	0	(0)	0	(0)	16	(33)	1	(2)	23	(48)	1	(2)	1	(2)	0	(0)	48	(1.7)
	0	0	(0)	1	(1)	90	(67)	0	(0)	1	(1)	3	(2)	0	(0)	1	(1)	2	(1)	0	(0)	24	(18)	0	(0)	3	(2)	10	(7)	135	(4.8)
	т	3	(1)	0	(0)	6	(3)	7	(3)	9	(4)	9	(4)	0	(0)	0	(0)	47	(22)	20	(9)	97	(46)	13	(6)	2	(1)	0	(0)	213	(7.6)
	U	10	(3)	0	(0)	11	(3)	12	(3)	4	(1)	43	(11)	0	(0)	0	(0)	84	(22)	0	(0)	189	(50)	3	(1)	16	(4)	8	(2)	380	(13.6)
2005	Total	31	(1.1)	39	(1.4)	429	(15.3)	95	(3.4)	118	(4.2)	180	(6.4)	4	(0.1)	11	(0.4)	536	(19.1)	57	(2.0)	1,011	(36.1)	142	(5.1)	122	(4.4)	25	(0.9)	2,800	
			(0)		(0)		(5)		(1)		(5)			-	(0)		(0)	= 1	(04)		(0)	75	(00)	40	(0)	40	(0)	-	(0)		(0.0)
2006	A	5	(2)	4	(2)	14	(5)	11	(4)	14	(5)	17	(7)	/	(3)	4	(2)	54	(21)	23	(9)	/5	(29)	16	(6)	16	(6)	0	(0)	260	(9.3)
	в	1	(1)	1	(1)	5	(5)	9	(8)	6	(5)	5	(5)	2	(2)	0	(0)	28	(25)	0	(0)	38	(35)	2	(2)	9	(8)	4	(4)	110	(4.0)
	E	12	(1)	38	(4)	210	(23)	48	(5)	64	(/)	50	(5)	2	(0)	4	(0)	103	(11)	17	(2)	288	(31)	48	(5)	45	(5)	0	(0)	929	(33.4)
	F	2	(0)	3	(0)	127	(21)	20	(3)	9	(1)	55	(9)	1	(0)	0	(0)	97	(16)	0	(0)	254	(42)	13	(2)	26	(4)	4	(1)	611	(22.0)
	н	1	(1)	0	(0)	2	(2)	/	(6)	10	(8)	12	(10)	0	(0)	0	(0)	23	(19)	2	(2)	38	(31)	20	(16)	9	(/)	0	(0)	124	(4.5)
	J	1	(3)	0	(0)	2	(6)	0	(0)	4	(11)	2	(6)	0	(0)	0	(0)	5	(14)	1	(3)	18	(50)	1	(3)	2	(6)	0	(0)	36	(1.3)
	0	0	(0)	0	(0)	66	(57)	0	(0)	1	(1)		(6)	0	(0)	3	(3)	0	(0)	0	(0)	19	(17)	0	(0)	0	(0)	19	(17)	115	(4.1)
		1	(0)	0	(0)	6	(2)	10	(4)	12	(5)	26	(10)	0	(0)	2	(1)	44	(17)	19	(7)	129	(49)	9	(3)	5	(2)	0	(0)	263	(9.5)
	U	7	(2)	0	(0)	22	(7)	12	(4)	5	(2)	31	(9)	0	(0)	0	(0)	101	(30)	0	(0)	139	(42)	2	(1)	7	(2)	7	(2)	333	(12.0)
2006	Total	30	(1.1)	46	(1.7)	454	(16.3)	117	(4.2)	125	(4.5)	205	(7.4)	12	(0.4)	13	(0.5)	455	(16.4)	62	(2.2)	998	(35.9)	111	(4.0)	119	(4.3)	34	(1.2)	2,781	
Gran	d Total	87	(1.0)	119	(1.4)	1,382	(16.4)	314	(3.7)	375	(4.4)	581	(6.9)	20	(0.2)	34	(0.4)	1,474	(17.5)	191	(2.3)	2,991	(35.5)	411	(4.9)	370	(4.4)	80	(0.9)	8,429	

Table 23 Most commonly returned Read Codes for primary reason for admission, 2004 - 2006

				Sex						
Primary Diagnosis	Mal	e	Fema	ale	Ambig	uous	Unkn	own	Tota	al
	n	%	n	%	n	%	n	%	n	%
Ventricular sental defect (P54.)	236	(54)	105	(45)	0	(0)	3	(1)	131	(7.6)
Bronchiolitis (XSDOK)	240	(54)	176	(43)	0	(0)	0	(1)	404	(7.0)
Status enilenticus (X007B)	105	(55)	151	(41)	0	(0)	1	(0)	3/7	(6.1)
Tetralogy of Fallot (P52.)	200	(58)	140	(44)	0	(0)	7	(0)	347	(6.1)
Sensis (X70V7)	178	(54)	140	(40)	0	(0)	1	(0)	328	(5.7)
Congenital heart disease (X77tW)	167	(53)	143	(43)	0	(0)	0	(0)	314	(5.5)
Hypoplastic left heart syndrome (P67.)	196	(67)	96	(33)	0	(0)	1	(0)	293	(5.1)
Respiratory failure (XM09V)	147	(55)	119	(45)	0	(0)	0	(0)	266	(4.7)
Discordant ventriculoarterial connection (P51.)	174	(66)	88	(33)	0	(0)	1	(0)	263	(4.6)
Patent ductus arteriosus (P70)	113	(45)	139	(55)	0	(0)		(0)	253	(4.4)
Pneumonia (X100E)	130	(52)	121	(48)	0	(0)	0	(0)	251	(4.4)
Atrioventricular septal defect & common atriovent junction (X77wc)	114	(53)	99	(46)	0	(0)	2	(1)	215	(3.8)
Respiratory obstruction (XM05Q)	122	(60)	83	(40)	0	(0)	0	(0)	205	(3.6)
Epileptic seizures - clonic (F2512)	103	(53)	93	(47)	0	(0)	0	(0)	196	(3.4)
Acute bronchiolitis due to respiratory syncytial virus (H0615)	113	(63)	65	(37)	0	(0)	0	(0)	178	(3.1)
Respiratory distress (XM07z)	92	(56)	71	(44)	0	(0)	0	(0)	163	(2.9)
Total great vessel transposition (P510.)	94	(59)	64	(40)	0	(0)	2	(1)	160	(2.8)
Coarctation of aorta NOS (P71z.)	92	(61)	59	(39)	0	(0)	1	(1)	152	(2.7)
Atrial septal defect (X77vY)	64	(42)	86	(57)	0	(0)	1	(1)	151	(2.6)
Neonatal necrotising enterocolitis (Q464.)	79	(53)	69	(46)	0	(0)	2	(1)	150	(2.6)
Cyanotic congenital heart disease NOS (XE1KK)	88	(63)	51	(37)	0	(0)	0	(0)	139	(2.4)
Head injury NOS (XA004)	86	(67)	43	(33)	0	(0)	0	(0)	129	(2.3)
Gastro-oesophageal reflux disease (X3003)	74	(60)	49	(40)	0	(0)	0	(0)	123	(2.2)
Febrile convulsion (XM03I)	67	(58)	49	(42)	0	(0)	0	(0)	116	(2.0)
Status asthmaticus (X102D)	71	(63)	41	(37)	0	(0)	0	(0)	112	(2.0)
Total	3,244	(56.8)	2,443	(42.8)	0	(0.0)	23	(0.4)	5,710	

Table 24 Most commonly	y returned Read	Codes for	primary	y reason for	'unplanned	- following surge	y' admissions, 2004	- 2006
						•		

				Sex						
Primary Diagnosis	Ма	ale	Fe	male	Ambig	uous	Unkn	own	То	tal
	n	%	n	%	n	%	n	%	n	%
Patent ductus arteriosus (P70)	21	(49)	22	(51)	0	(0)	0	(0)	43	(13.1)
Respiratory obstruction (XM05Q)	15	(56)	12	(44)	0	(0)	0	(0)	27	(8.2)
Hypoplastic left heart syndrome (P67)	21	(81)	5	(19)	0	(0)	0	(0)	26	(7.9)
Ventricular septal defect (P54)	13	(54)	11	(46)	0	(0)	0	(0)	24	(7.3)
Intussusception (J500.)	11	(48)	12	(52)	0	(0)	0	(0)	23	(7.0)
Discordant ventriculoarterial connection (P51)	16	(84)	3	(16)	0	(0)	0	(0)	19	(5.8)
Congenital heart disease (X77tW)	8	(47)	9	(53)	0	(0)	0	(0)	17	(5.2)
Empyema (XaE01)	4	(29)	10	(71)	0	(0)	0	(0)	14	(4.3)
Hydrocephalus (X00EG)	6	(50)	6	(50)	0	(0)	0	(0)	12	(3.6)
Respiratory failure (XM09V)	8	(80)	2	(20)	0	(0)	0	(0)	10	(3.0)
Coarctation of aorta NOS (P71z.)	6	(60)	4	(40)	0	(0)	0	(0)	10	(3.0)
Appendicitis (Xa9C4)	4	(40)	6	(60)	0	(0)	0	(0)	10	(3.0)
Neonatal necrotising enterocolitis (Q464.)	3	(30)	6	(60)	0	(0)	1	(10)	10	(3.0)
Inguinal hernia (XE0aW)	4	(44)	5	(56)	0	(0)	0	(0)	9	(2.7)
Obstruction of intestine (X305B)	5	(63)	3	(38)	0	(0)	0	(0)	8	(2.4)
Pulmonary valve stenosis (X201I)	4	(50)	4	(50)	0	(0)	0	(0)	8	(2.4)
Peritonitis (J55)	5	(71)	2	(29)	0	(0)	0	(0)	7	(2.1)
Hirschsprung's disease (PB30.)	5	(71)	2	(29)	0	(0)	0	(0)	7	(2.1)
Double outlet right ventricle (P511.)	4	(57)	3	(43)	0	(0)	0	(0)	7	(2.1)
Sepsis (X70VZ)	4	(57)	3	(43)	0	(0)	0	(0)	7	(2.1)
Stridor (XM082)	5	(71)	2	(29)	0	(0)	0	(0)	7	(2.1)
Subglottic stenosis (X00nG)	4	(67)	2	(33)	0	(0)	0	(0)	6	(1.8)
Tracheomalacia (P8314)	5	(83)	1	(17)	0	(0)	0	(0)	6	(1.8)
Cleft palate (P90)	5	(83)	1	(17)	0	(0)	0	(0)	6	(1.8)
Respiratory distress (XM07z)	3	(50)	3	(50)	0	(0)	0	(0)	6	(1.8)
Total	189	(57.4)	139	(42.2)	0	(0.0)	1	(0.3)	329	

Table 25 Most commonly returned Read Codes for primary reason for 'unplanned - other' admission, 2004 - 2006

				Sex						
Primary Diagnosis	Mal	e	Fem	ale	Ambig	uous	Unkn	own	Tota	1
	n	%	n	%	n	%	n	%	n	%
Bronchiolitis (XSDOK)	245	(59)	173	(41)	0	(0)	0	(0)	418	(11.6)
Status epilepticus (X007B)	188	(56)	148	(44)	0	(0)	1	(0)	337	(9.3)
Sepsis (X70VZ)	168	(55)	138	(45)	0	(0)	1	(0)	307	(8.5)
Pneumonia (X100E)	128	(53)	112	(47)	0	(0)	0	(0)	240	(6.7)
Respiratory failure (XM09V)	129	(55)	106	(45)	0	(0)	0	(0)	235	(6.5)
Epileptic seizures - clonic (F2512)	102	(53)	92	(47)	0	(0)	0	(0)	194	(5.4)
Acute bronchiolitis due to respiratory syncytial virus (H0615)	110	(64)	61	(36)	0	(0)	0	(0)	171	(4.7)
Respiratory distress (XM07z)	83	(56)	64	(44)	0	(0)	0	(0)	147	(4.1)
Febrile convulsion (XM03I)	66	(58)	48	(42)	0	(0)	0	(0)	114	(3.2)
Neonatal necrotising enterocolitis (Q464.)	66	(58)	48	(42)	0	(0)	0	(0)	114	(3.2)
Head injury NOS (XA004)	75	(66)	38	(34)	0	(0)	0	(0)	113	(3.1)
Status asthmaticus (X102D)	69	(63)	41	(37)	0	(0)	0	(0)	110	(3.0)
Acute bronchiolitis (H061.)	56	(52)	51	(48)	0	(0)	0	(0)	107	(3.0)
Meningococcal septicaemia (A362.)	54	(52)	50	(48)	0	(0)	0	(0)	104	(2.9)
Asthma (H33)	58	(57)	44	(43)	0	(0)	0	(0)	102	(2.8)
Aspiration pneumonitis (H47)	46	(52)	42	(48)	0	(0)	0	(0)	88	(2.4)
Seizure (XaEHz)	38	(45)	47	(55)	0	(0)	0	(0)	85	(2.4)
Hypoplastic left heart syndrome (P67)	53	(64)	30	(36)	0	(0)	0	(0)	83	(2.3)
Congenital heart disease (X77tW)	50	(61)	32	(39)	0	(0)	0	(0)	82	(2.3)
Diabetic ketoacidosis (C101.)	33	(40)	48	(59)	1	(1)	0	(0)	82	(2.3)
Respiratory obstruction (XM05Q)	48	(59)	34	(41)	0	(0)	0	(0)	82	(2.3)
Acute laryngotracheobronchitis (Xa0IW)	51	(66)	26	(34)	0	(0)	0	(0)	77	(2.1)
Discordant ventriculoarterial connection (P51)	52	(70)	22	(30)	0	(0)	0	(0)	74	(2.1)
Meconium aspiration syndrome (Q3110)	36	(51)	35	(49)	0	(0)	0	(0)	71	(2.0)
Ventricular septal defect (P54)	39	(55)	31	(44)	0	(0)	1	(1)	71	(2.0)
Total	2,043	(56.6)	1,561	(43.3)	1	(0.0)	3	(0.1)	3,608	

## Table 26 Retrievals by team type and age, 2004 - 2006

			Ag	je Group (`	rears)					
Retrieval Team	<1		1-4	4	5-1	10	11-	15	Tota	al
	n	%	n	%	n	%	n	%	n	%
Own team	763	(50)	416	(27)	199	(13)	153	(10)	1,531	(24.1)
Other specialist team (PICU)	1,748	(53)	843	(25)	395	(12)	322	(10)	3,308	(52.0)
Other specialist team (non-PICU)	363	(71)	55	(11)	42	(8)	49	(10)	509	(8.0)
Non-specialist team	440	(64)	95	(14)	62	(9)	86	(13)	683	(10.7)
Unknown	187	(56)	86	(26)	34	(10)	25	(8)	332	(5.2)
Total	3,501	(55.0)	1,495	(23.5)	732	(11.5)	635	(10.0)	6,363	

Figure 26 Retrievals by team type, 2004 - 2006



# Own team Other specialist team (PICU) Other specialist team (non-PICU) Non-specialist team Unknown

Table 27 'Non-specialist team' retrievals by diagnostic group and age, 2004 - 2006

			Α	ge Group (	Years	)				
Diagnostic Group	<	1		1-4	5-	10	1	1-15	То	tal
	n	%	n	%	n	%	n	%	n	%
Blood / lymphatic	5	(83)	0	(0)	0	(0)	1	(17)	6	(0.9)
Body wall and cavities	18	(86)	1	(5)	0	(0)	2	(10)	21	(3.1)
Cardiovascular	181	(78)	21	(9)	9	(4)	21	(9)	232	(34.0)
Endocrine / metabolic	4	(50)	2	(25)	2	(25)	0	(0)	8	(1.2)
Gastrointestinal	46	(75)	6	(10)	5	(8)	4	(7)	61	(8.9)
Infection	3	(23)	2	(15)	3	(23)	5	(38)	13	(1.9)
Multisystem	3	(100)	0	(0)	0	(0)	0	(0)	3	(0.4)
Musculoskeletal	3	(75)	1	(25)	0	(0)	0	(0)	4	(0.6)
Neurological	28	(41)	15	(22)	13	(19)	12	(18)	68	(10.0)
Oncology	2	(10)	8	(40)	6	(30)	4	(20)	20	(2.9)
Respiratory	112	(70)	26	(16)	9	(6)	12	(8)	159	(23.3)
Trauma	3	(6)	7	(15)	13	(28)	24	(51)	47	(6.9)
Other	31	(78)	6	(15)	2	(5)	1	(3)	40	(5.9)
Unknown	1	(100)	0	(0)	0	(0)	0	(0)	1	(0.1)
Total	440	(64.4)	95	(13.9)	62	(9.1)	86	(12.6)	683	

lable	28 Retrievals b	by retrieva	al type by	/ NHS trust, 2004 - 2	2006								
Veer	NUC Truck	<b>0</b>		Other encolation t		Retrieval Team		Non onesia	list team	l la la		Tat	
rear	NH5 Trust	Ownt	eam	Other specialist t		Other specialist tea		Non-specia		Unkn	0/	100	1I 0/
			70	11	76	11	/0		70		70		70
2004	Α	24	(21)	26	(23)	62	(55)	0	(0)	1	(1)	113	(5.1)
	В	1	(5)	12	(57)	7	(33)	1	(5)	0	(0)	21	(1.0)
	E	7	(1)	570	(70)	5	(1)	228	(28)	3	(0)	813	(36.9)
	F	451	(70)	66	(10)	72	(11)	27	(4)	24	(4)	640	(29.1)
	н	8	(7)	91	(75)	11	(9)	7	(6)	4	(3)	121	(5.5)
	J	1	(10)	9	(90)	0	(0)	0	(0)	0	(0)	10	(0.5)
	0	1	(1)	17	(21)	2	(2)	0	(0)	61	(75)	81	(3.7)
	т	0	(0)	98	(82)	1	(1)	18	(15)	2	(2)	119	(5.4)
	U	95	(33)	161	(57)	6	(2)	2	(1)	20	(7)	284	(12.9)
2004 T	otal	588	(26.7)	1,050	(47.7)	166	(7.5)	283	(12.9)	115	(5.2)	2,202	
2005	Α	29	(22)	55	(43)	45	(35)	0	(0)	0	(0)	129	(6.0)
	в	1	(10)	1	(10)	4	(40)	4	(40)	0	(0)	10	(0.5)
	E	0	(0)	573	(80)	2	(0)	141	(20)	1	(0)	717	(33.6)
	F	433	(71)	100	(16)	58	(10)	16	(3)	0	(0)	607	(28.5)
	н	8	(6)	89	(64)	31	(22)	9	(6)	3	(2)	140	(6.6)
	J	3	(38)	2	(25)	0	(0)	2	(25)	1	(13)	8	(0.4)
	0	4	(4)	42	(45)	5	(5)	1	(1)	42	(45)	94	(4.4)
	т	0	(0)	90	(76)	2	(2)	25	(21)	1	(1)	118	(5.5)
	U	0	(0)	147	(47)	7	(2)	0	(0)	156	(50)	310	(14.5)
2005 T	otal	478	(22.4)	1,099	(51.5)	154	(7.2)	198	(9.3)	204	(9.6)	2,133	
2006	•	50	(20)	40	(22)	47	(12)	22	(17)	0	(0)	422	(C E)
2006	A	50	(30)	42	(32)	17	(13)	23	(17)	0	(0)	132	(0.5)
	5	2	(20)	5	(30)	3	(30)	120	(10)	0	(10)	742	(0.5)
	5	200	(1)	594	(00)	4	(1)	139	(19)	0	(0)	/43	(30.0)
	r U	300	(00)	00	(13)	10	(2)	20	(4)	2	(0)	403	(23.0)
	-	14	(12)	00	(74)	0	(1)	/	(6)	2	(2)	117	(5.6)
	J	2	(0)	15	(0)	125	(100)	0	(0)	1	(0)	142	(7.1)
	T	2	(1)	10	(10)	120	(07)	11	(0)	0	(1)	143	(7.1)
	ii	2	(0)	110	(91)	10	(1)	1	(0)	0	(0)	130	(0.4)
2006 T	otal	3	(22.0)	230	(00)	19	(7)	202	(10.0)	12	(0.6)	200	(13.2)
2000 1	otal	400	(22.3)	1,139	(57.1)	109	(9.3)	202	(10.0)	13	(0.0)	2,020	
Grand	Total	1,531	(24.1)	3,308	(52.0)	509	(8.0)	683	(10.7)	332	(5.2)	6,363	

								Interven	tion										
Year	NHS Trust	Invasive Ve	ntilation	Non-Invasive Ve	entilation	Tracheo	stomy	ECM	NO	IV Vasoacti	ve Drugs	L	VAD	ICP D	evice	Renal Su	upport	Admis	sions
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
2004	A	202	(46)	73	(16)	2	(0)	0	(0)	62	(14)	0	(0)	47	(11)	0	(0)	443	(8.
	В	58	(20)	32	(11)	3	(1)	0	(0)	16	(6)	0	(0)	0	(0)	0	(0)	285	(5.
	E	1,402	(79)	351	(20)	65	(4)	52	(3)	812	(46)	1	(0)	41	(2)	60	(3)	1,778	(33.
	F	927	(80)	128	(11)	14	(1)	1	(0)	360	(31)	0	(0)	2	(0)	26	(2)	1,165	(21.
	н	221	(72)	18	(6)	4	(1)	1	(0)	52	(17)	1	(0)	20	(6)	17	(6)	308	(5.)
	J	12	(15)	3	(4)	0	(0)	1	(1)	2	(2)	0	(0)	0	(0)	2	(2)	82	(1.
	0	388	(70)	74	(13)	9	(2)	5	(1)	315	(57)	0	(0)	1	(0)	4	(1)	553	(10.:
	Т	119	(33)	58	(16)	5	(1)	0	(0)	35	(10)	0	(0)	9	(2)	1	(0)	366	(6.
	U	261	(67)	109	(28)	12	(3)	0	(0)	107	(27)	0	(0)	0	(0)	6	(2)	392	(7.
2004 T	otal	3,590	(66.8)	846	(15.7)	114	(2.1)	60	(1.1)	1,761	(32.8)	2	(0.0)	120	(2.2)	116	(2.2)	5,372	
2005	Α	171	(41)	40	(10)	8	(2)	0	(0)	55	(13)	0	(0)	21	(5)	0	(0)	420	(8.
	В	29	(12)	18	(8)	10	(4)	0	(0)	8	(3)	0	(0)	0	(0)	0	(0)	233	(4.
	E	1.308	(86)	174	(11)	43	(3)	44	(3)	746	(49)	2	(0)	59	(4)	63	(4)	1.515	(29.
	F	911	(81)	119	(11)	12	(1)	0	(0)	333	(30)	0	(0)	0	(0)	33	(3)	1,123	(21.)
	н	242	(72)	22	(7)	5	(1)	1	(0)	52	(15)	0	(0)	23	(7)	19	(6)	337	) (6. <sup>4</sup>
	J	29	(30)	10	(10)	0	(0)	0	(0)	2	(2)	0	(0)	1	(1)	1	(1)	96	(1.9
	0	429	(70)	124	(20)	9	(1)	3	(0)	366	(60)	0	(0)	0	(0)	1	(0)	615	(11.9
	т	139	(34)	92	(22)	2	(0)	0	(0)	28	(7)	0	(0)	4	(1)	4	(1)	413	(8.
	U	285	(70)	93	(23)	11	(3)	0	(0)	111	(27)	0	(0)	2	(0)	6	(1)	408	(7.
2005 T	otal	3,543	(68.7)	692	(13.4)	100	(1.9)	48	(0.9)	1,701	(33.0)	2	(0.0)	110	(2.1)	127	(2.5)	5,160	
2006	A	179	(40)	33	(7)	10	(2)	0	(0)	50	(11)	0	(0)	21	(5)	2	(0)	449	(8)
	в	14	(6)	34	(15)	3	(1)	0	(0)	1	(0)	0	(0)	1	(0)	0	(0)	226	(4.
	E	1.401	(88)	148	(9)	43	(3)	57	(4)	771	(48)	2	(0)	57	(4)	80	(5)	1.600	(30.
	F	858	(79)	108	(10)	13	(1)	1	(0)	352	(32)	0	(0)	0	(0)	42	(4)	1.086	(20.)
	н	228	(72)	29	(9)	6	(2)	0	(0)	59	(19)	0	(0)	10	(3)	23	(7)	315	(6.
	J	25	(34)	7	(10)	0	(0)	0	(0)	5	(7)	0	(0)	0	(0)	0	(0)	73	'n.
	0	474	(72)	145	(22)	2	(0)	3	(0)	380	(58)	1	(0)	0	(0)	4	(1)	655	(12.
	т	179	(40)	120	(27)	0	(0)	0	(0)	33	(7)	0	(0)	9	(2)	2	(0)	442	<b>`(8</b> ,
	U	223	(61)	80	(22)	8	(2)	0	(0)	97	(26)	0	(0)	1	(0)	6	(2)	367	(7.
2006 T	otal	3,581	(68.7)	704	(13.5)	85	(1.6)	61	(1.2)	1,748	(33.5)	3	(0.1)	99	(1.9)	159	(3.1)	5,213	

Table 30 Admissions by ventilation status and age, 2004 - 2006

			Α	ge Group (	(Years)					
Ventilation Status	<1		1-4	1	5-1	0	11-1	5	Tota	ıl
	n	%	n	%	n	%	n	%	n	%
Invasive only	4,649	(50)	2,469	(27)	1,159	(13)	947	(10)	9,224	(58.6)
Non-invasive only	384	(51)	174	(23)	96	(13)	98	(13)	752	(4.8)
Both	1,014	(68)	259	(17)	128	(9)	89	(6)	1,490	(9.5)
Neither	1,631	(38)	1,223	(29)	733	(17)	651	(15)	4,238	(26.9)
Unknown	16	(39)	13	(32)	5	(12)	7	(17)	41	(0.3)
Total	7,694	(48.9)	4,138	(26.3)	2,121	(13.5)	1,792	(11.4)	15,745	

					Ve	ntilation S	status						
Year	NHS Trust	Invasiv	e only	Non-invas	sive only	Bot	:h	Neit	her	Unkr	nown	Tota	al
		n	%	n	%	n	%	n	%	n	%	n	%
2004	۸	159	(36)	30	(7)	43	(10)	211	(48)	0	(0)	443	(8.2)
2004	R	51	(18)	25	(7)	-5	(10)	202	(71)	0	(0)	285	(5.2)
	F	1 145	(10)	94	(5)	257	(14)	202	(16)	0	(0)	1 778	(33.3)
	F	837	(72)	38	(3)	90	(8)	202	(10)	0	(0)	1 165	(21.7)
	н	210	(68)	7	(3)	11	(0)	68	(22)	12	(0)	308	(21.7)
		12	(15)	3	(4)	0	(0)	67	(82)	0	(0)	82	(1.5)
	0	337	(61)	23	(4)	51	(0)	142	(26)	0	(0)	553	(10.3)
	Ť	91	(25)	30	(4)	28	(8)	217	(59)	0	(0)	366	(10.3)
	U	187	(48)	35	(9)	74	(19)	96	(24)	0	(0)	392	(7.3)
2004 T	otal	3.029	(56.4)	285	(5.3)	561	(10.4)	1.485	(27.6)	12	(0.2)	5.372	(1.0)
		-,	(0011)		(***)		(1011)	.,	(====)		(/	-,	
2005	Α	150	(36)	19	(5)	21	(5)	230	(55)	0	(0)	420	(8.1)
	В	25	(11)	14	(6)	4	(2)	189	(81)	1	(0)	233	(4.5)
	E	1,175	(78)	41	(3)	133	(9)	166	(11)	0	(0)	1,515	(29.4)
	F	822	(73)	30	(3)	89	(8)	182	(16)	0	(0)	1,123	(21.8)
	Н	229	(68)	9	(3)	13	(4)	71	(21)	15	(4)	337	(6.5)
	J	27	(28)	8	(8)	2	(2)	58	(60)	1	(1)	96	(1.9)
	0	333	(54)	28	(5)	96	(16)	158	(26)	0	(0)	615	(11.9)
	т	105	(25)	58	(14)	34	(8)	216	(52)	0	(0)	413	(8.0)
	U	219	(54)	27	(7)	66	(16)	96	(24)	0	(0)	408	(7.9)
2005 T	otal	3,085	(59.8)	234	(4.5)	458	(8.9)	1,366	(26.5)	17	(0.3)	5,160	
2006	•	162	(26)	17	(4)	16	(4)	252	(EC)	1	(0)	440	(9.6)
2000	A	103	(30)	17	(4)	10	(4)	202	(00)	1	(0)	449	(0.0)
	E	1 207	(4)	20	(12)	114	(3)	165	(01)	0	(0)	1 600	(4.3)
	F	772	(71)	22	(2)	86	(7)	206	(10)	0	(0)	1,000	(20.8)
	г Ц	206	(71)	7	(2)	22	(0)	200	(19)	10	(0)	315	(20.0)
		200	(30)	4	(2)	3	(1)	44	(60)	0	(0)	73	(0.0)
	ů.	364	(56)	35	(5)	110	(17)	146	(00)	0	(0)	655	(12.6)
	т	126	(29)	67	(15)	53	(17)	196	(22)	0	(0)	442	(12.0)
	U	162	(44)	19	(10)	61	(12)	125	(34)	0	(0)	367	(0.0)
2006 T	otal	3.110	(59.7)	233	(4.5)	471	(9.0)	1.387	(26.6)	12	(0.2)	5.213	(1.0)
		5,0	()		(		(0.0)	.,	(_0.0)		(*-=)	0,2.0	
Grand	Total	9,224	(58.6)	752	(4.8)	1,490	(9.5)	4,238	(26.9)	41	(0.3)	15,745	

Table 31 Admissions by ventilation status by NHS trust, 2004 - 2006

Figure 31a Percentage of children receiving invasive ventilation by 2004 SHA in England and Wales, 2004 and 2006



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Note: Birmingham Children's Hospital did not supply intervention data for 2005, so data for 2004 and 2006 only are presented.

Figure 31b Percentage of children receiving invasive ventilation by 2006 SHA in England and Wales, 2004 and 2006



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Note: Birmingham Children's Hospital did not supply intervention data for 2005, so data for 2004 and 2006 only are presented.

Figure 31c Percentage of children receiving invasive ventilation by 2006 PCO in England and Wales, 2004 and 2006



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Note: Birmingham Children's Hospital did not supply intervention data for 2005, so data for 2004 and 2006 only are presented.

			5	Sex						
Age (Years)	Male		Femal	е	Ambig	uous	Unkn	own	Total	I
	n	%	n	%	n	%	n	%	n	%
0	29,653	(59)	20,297	(41)	2	(0)	152	(0)	50,104	(56.8
1	4,886	(53)	4,369	(47)	4	(0)	22	(0)	9,281	(10.5
2	2,140	(47)	2,437	(53)	0	(0)	14	(0)	4,591	(5.2
3	2,471	(65)	1,347	(35)	0	(0)	2	(0)	3,820	(4.3
4	1,116	(53)	972	(46)	0	(0)	4	(0)	2,092	(2.4
5	1,031	(52)	926	(47)	0	(0)	12	(1)	1,969	(2.2
6	862	(54)	721	(45)	0	(0)	3	(0)	1,586	(1.8
7	839	(42)	1,136	(57)	0	(0)	2	(0)	1,977	(2.2
8	826	(64)	468	(36)	0	(0)	0	(0)	1,294	(1.5
9	896	(49)	930	(51)	0	(0)	0	(0)	1,826	(2.1
10	794	(54)	674	(46)	0	(0)	0	(0)	1,468	(1.7
11	643	(50)	640	(50)	0	(0)	0	(0)	1,283	(1.5
12	1,120	(60)	757	(40)	0	(0)	0	(0)	1,877	(2.1
13	889	(53)	785	(47)	0	(0)	4	(0)	1,678	(1.9
14	859	(45)	1,048	(55)	0	(0)	3	(0)	1,910	(2.2
15	717	(48)	792	(52)	0	(0)	0	(0)	1,509	(1.7
Total	49,742	(56.4)	38,299	(43.4)	6	(0.0)	218	(0.2)	88,265	



Figure 32 Bed days by age and sex, 2004 - 2006

#### Male Female 35,000 30,000 25,000 Number of Bed Days 20,000 15,000 10,000 5,000 0 8 0 1 2 5 7 9 10 11 12 13 14 15 3 4 6

Age (Years)
				A	ge Group	(Years)					
Year	NHS Trust	<1		1-4		5-10	)	11-1	5	Tota	Í
		n	%	n	%	n	%	n	%	n	%
2004	Α	743	(36)	557	(27)	452	(22)	327	(16)	2.079	(6.8)
	В	233	(43)	154	(29)	80	(15)	72	(13)	539	(1.8)
	E	7.887	(61)	2.504	(20)	965	(8)	1.479	(12)	12.835	(41.9)
	F	3,401	(67)	945	(19)	433	(9)	303	(6)	5,082	(16.6)
	Н	474	(29)	601	(37)	338	(21)	221	(14)	1,634	(5.3)
	J	99	(53)	47	(25)	24	(13)	18	(10)	188	(0.6)
	0	2,201	(62)	844	(24)	338	(9)	177	(5)	3,560	(11.6)
	т	648	(38)	539	(31)	200	(12)	327	(19)	1,714	(5.6)
	U	1,509	(50)	849	(28)	442	(15)	209	(7)	3,009	(9.8)
2004 T	otal	17,195	(56.1)	7,040	(23.0)	3,272	(10.7)	3,133	(10.2)	30,640	
2005	Α	731	(38)	379	(20)	611	(32)	207	(11)	1,928	(6.6)
	В	219	(38)	144	(25)	52	(9)	163	(28)	578	(2.0)
	E	6,419	(60)	2,251	(21)	1,239	(12)	821	(8)	10,730	(36.9)
	F	3,385	(63)	1,208	(23)	453	(8)	295	(6)	5,341	(18.4)
	Н	781	(45)	462	(26)	192	(11)	317	(18)	1,752	(6.0)
	J	101	(52)	50	(26)	23	(12)	22	(11)	196	(0.7)
	0	3,184	(75)	634	(15)	249	(6)	168	(4)	4,235	(14.6)
	т	441	(26)	602	(35)	354	(21)	299	(18)	1,696	(5.8)
	U	1,260	(48)	853	(32)	390	(15)	131	(5)	2,634	(9.1)
2005 T	otal	16,521	(56.8)	6,583	(22.6)	3,563	(12.2)	2,423	(8.3)	29,090	
2006	Α	732	(35)	436	(21)	647	(31)	289	(14)	2,104	(7.4)
	В	211	(38)	97	(17)	69	(12)	182	(33)	559	(2.0)
	E	6.963	(66)	1.820	(17)	954	(9)	871	(8)	10.608	(37.2)
	F	3.102	(61)	1,137	(22)	343	(7)	512	(10)	5.094	(17.9)
	Н	750	(44)	572	(34)	207	(12)	167	(10)	1,696	(5.9)
	J	101	(65)	35	(22)	9	(6)	11	(7)	156	(0.5)
	0	2,737	(69)	799	(20)	302	(8)	142	(4)	3,980	(13.9)
	т	696	(35)	569	(28)	400	(20)	352	(17)	2,017	(7.1)
	U	1,096	(47)	696	(30)	354	(15)	175	(8)	2,321	(8.1)
2006 T	otal	16,388	(57.4)	6,161	(21.6)	3,285	(11.5)	2,701	(9.5)	28,535	
Grand	Total	50 104	(56.8)	19,784	(22.4)	10.120	(11.5)	8.257	(9.4)	88,265	

Table 3	84 Bed cen	sus by month,	2004 - 2006
		Number in	n PICU
Year	Month	Median	IQR
2004	1	78	75-81
	2	74	73-78
	3	70	65-74
	4	74	69-75
	5	70	66-75
	6	72	68-75
	7	65	59-68
	8	60	54-64
	9	57	50-61
	10	69	66-72
	11	72	69-76
	12	76	72-81
2005	1	70	66-73
	2	73	68-76.5
	3	70	68-74
	4	69	65-73
	5	70	61-74
	6	63	58-65
	7	65	61-72
	8	64	58-70
	9	57	55-62
	10	58	54-61
	11	68	60-72
	12	70	66-75
2006	1	64	60-67
	2	71	68-73
	3	71	67-74
	4	63	58-67
	5	57	53-63
	6	61	54-64
	7	59	57-64
	8	62	60-65
	9	64	59-67
	10	63	59-67
	11	69	67-75
	12	71	68-73

Figure 34 Bed census by month, 2004 - 2006



Table	35 Bed censu	us by NHS tru	ist, 2004 - :
		Number i	n PICU
Year	NHS Trust	Median	IQR
2004	Α	5	3-6
	В	1	0-1
	E	31	29-34
	F	11	9-13
	н	4	3-5
	J	0	0-1
	0	8	7-10
	т	4	3-5
	U	7	5-8
2005	Α	4	3-5
	В	1	0-1
	E	26	24-28
	F	12	10-14
	н	4	3-5
	J	0	0-0
	0	10	9-11
	т	4	3-5
	U	6	4-7
2006	Α	5	4-5
	В	1	0-1
	E	25	23-27
	F	11	9-13
	н	4	3-5
	J	0	0-0
	0	9	8-11
	т	5	3-6
	U	5	4-7

Figure 35a Bed census by NHS trust, 2004







Figure 35c Bed census by NHS trust, 2006



Table 3	Ded activit	Bed Activit	v (Davs)
Year	Month	Median	IQR
			-
2004	1	87	80-92
	2	85	82-88
	3	82	78-87
	4	83	78-86
	5	81	75-88
	6	86	77-92
	7	73	68-78
	8	71	61-74
	9	67	59-74
	10	78	73-81
	11	82	76-89
	12	87	80-95
2005	1	79	77-84
	2	84	79-88
	3	82	76-86
	4	77	72-82
	5	76	67-81
	6	75	70-78
	7	77	70-82
	8	72	65-79
	9	69	62-71
	10	67	63-71
	11	77	73-84
	12	84	75-90
2006	1	73	69-78
	2	84	78-88.5
	3	81	73-86
	4	71	65-77
	5	67	61-74
	6	66	61-72
	7	69	61-76
	8	72	65-75
	9	73	68-78
	10	75	70-78
	11	82	76-85
	12	79	76-84

Figure 36 Bed activity by month, 2004 - 2006



Table 3	7 Bed activity by	/ NHS trust, 2	2004 - 2006
		Bed Activit	ty (Days)
Year	NHS Trust	Median	IQR
2004	Α	6	5-7
	В	1	1-2
	E	34	31-36
	F	14	11-16
	н	4	3-6
	J	0	0-1
	0	8	6-9
	т	5	4-6
	U	8	5-9
2005	Α	5	4-6
	В	2	1-2
	E	29	26-31
	F	15	12-17
	н	4	3-6
	J	0	0-1
	0	10	8-12
	т	5	4-6
	U	7	6-8
2006	Α	6	5-7
	В	1	0-2
	E	28	25-30
	F	14	11-16
	H	4	3-5
	J	0	0-1
	0	9	7-11
	Т	6	5-7
	U	6	5-8

Figure 37a Bed activity by NHS trust, 2004







Figure 37c Bed activity by NHS trust, 2006



				Ag	je Grou	p (Years)			
Year	NHS Trust	<1		1-4		5-10	1	11-1	5
		Median	IQR	Median	IQR	Median	IQR	Median	IQR
2004	Α	3	2-6	3	2-5	2	2-5	2	2-3
	В	1	1-2	2	1-3	2	1-2	2	1-2
	E	5	3-9	3	2-5	2	2-5	2	2-6
	F	4	2-6	2	2-4	3	2-5	2	2-3
	Н	3	2-6	2.5	2-5	3	2-5	3	2-5
	J	2	2-3	2	2-2	2	1-2	1	1-2
	0	5	2-8	3	2-5	2	2-3	2	2-5
	Т	2.5	2-4	2	2-5	2	2-4	3	2-5
	U	5	3-9	3	2-8	2.5	2-5	3	2-5
2005	Α	3	2-5	2	2-4	2	2-4	2	2-3
	В	2	1-3	2	1-2.5	2	1-2	2	1-3
	E	5	3-8	3	2-6	3	2-5	3	2-7
	F	4	2-6	3	2-4	3	2-4	2	2-3.5
	Н	3	2-5	2	2-4	2	2-4	3	2-6
	J	2	1-2	2	1-2.5	2	1-2	2	1-3
	0	4	2-8	3	2-4	2	2-3	2	2-3.5
	Т	2	2-5	2	2-3	2	2-4	2	2-4
	U	4	2-8	3	2-6	3	2-4	2	2-4
2006	Α	3	2-6	2	2-3	2	2-5	2.5	2-4
	В	2	1-3	2	1-2	2	1-2	2	1-3
	E	5	3-8	3	2-6	3	2-7	3	2-6
	F	4	3-6	3	2-4	2	2-4	2	2-3
	Н	3	2-9	2	2-6	2	2-4	2	2-4
	J	2	1-3	2	1-2	1	1-2	2	2-2
	0	4	2-7	3	2-6	2	2-3	2	2-3
	Т	3	2-6	2	2-4	3	2-4	3	2-6
	U	5	3-7	3	2-6	3	2-5	3	2-6

Table 38 Length of stay by age and NHS trust, 2004 - 2006

Table 39 Le	ngth of stay	by primary	/ diagnostic gr	oup and NH	S trust, 20	04 - 2006																						
												Diagr	nostic Gro	up														
NHS Trust	Blood / ly	mphatic	Body wall ar	nd cavities	Cardiov	ascular	Endocrine /	metabolic	Gastroin	testinal	Infect	ion	Multisy	/stem	Musculo	skeletal	Neurolo	gical	Oncold	gy	Respira	atory	Traur	na	Othe	±r	Unknr	own
	Median	IQR	Median	IQR	Median	IQR	Median	IQR	Median	IQR	Median	IQR	Median	IQR	Median	IQR	Median	IQR	Median	IQR	Median	IQR	Median	IQR	Median	IQR	Median	IQR
																							-			-		
A	2	1-5	2	1-4	3	2-4.5	2	2-4	2	2-3	4	2-6	3	2-8	2	2-3	2	2-4	2	2-4	4	2-7	3	2-5	2	2-4	2	1-5
в	2	1.5-2.5	1	1-1	1	1-2	2	1.5-2	2	1-3	2	1-2	2	2-2	2	1-2	2	1-3	1	1-3	2	1-3	1	1-2	2	1-2	1	1-3
E	4	2-9	6	3-11	4	2-7	4	2-8	4	2-10	4	2-7	4	1-7	2	2-2.5	3	2-5	3	2-6	5	3-9	3	2-6	3	2-6	0	0-0
F	3	2.5-5.5	2	1-5	3	2-5	2	2-3	2	2-5	3	2-6	5	4-12	2	2-2	2	2-3	2	2-2	4	3-7	2.5	2-4	2	2-3	2.5	2-4
н	2	1-5	2	1-3	3.5	2-6	3	2-5	3	2-5	4	2-7	0	0-0	2	2-3	3	2-5	3	2-4	4	2-8	2	2-5	2	2-3	6	6-6
J	2	1-2	2	1-3	1	1-1	2	1-3	2	2-3	2	1-3	0	0-0	0	0-0	1	1-2	1.5	1-2	2	1-3	2	1-3	2	1-2	3	2-4
0	0	0-0	4	2.5-10	3	2-6	3	2-4	3	2-15	2	1-9	0	0-0	2	2-9	6.5	2-9	2	2-3	3	2-7	2	2-2	2	1-3	7	3-13
т	2	2-3	2	2-2	2	2-3	3.5	2.5-5	2	2-3	3	2-6	2	2-2.5	3	2-4	2	2-3	2	2-3	3	2-7	2.5	2-5	2	2-2.5	13	13-13
	2	2.5	2	2 0	2	2.6	2	26	2	2.6	0	4 10	0	0.0	0	0.0	2	2.2	4	4.4	4	2.0	2	22	2	1.4	5	2.0

Table	to Admission	s by len	gth of st	ау бу	NHS tru	lSt, 2004 ·	- 2006			LOS Grou	n								
Year	NHS Trust	e	1h	1h to	o <4h	4h to <	12h	12h to	~24h	1d to	۲ ح3d	3d to	<7d	7d+		Unkr	nown	Tota	d.
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
2004	Α	1	(0)	18	(4)	48	(11)	81	(18)	156	(35)	76	(17)	63	(14)	0	(0)	443	(8.2)
	В	5	(2)	59	(21)	66	(23)	69	(24)	71	(25)	13	(5)	2	(1)	0	(0)	285	(5.3)
	E	0	(0)	42	(2)	117	(7)	263	(15)	532	(30)	425	(24)	399	(22)	0	(0)	1,778	(33.1)
	F	0	(0)	27	(2)	81	(7)	165	(14)	470	(40)	310	(27)	112	(10)	0	(0)	1,165	(21.7)
	н	0	(0)	13	(4)	31	(10)	52	(17)	103	(33)	60	(19)	49	(16)	0	(0)	308	(5.7)
	J	0	(0)	4	(5)	19	(23)	22	(27)	32	(39)	3	(4)	2	(2)	0	(0)	82	(1.5)
	0	5	(1)	13	(2)	30	(5)	72	(13)	198	(36)	128	(23)	107	(19)	0	(0)	553	(10.3)
	т	0	(0)	12	(3)	28	(8)	74	(20)	146	(40)	55	(15)	51	(14)	0	(0)	366	(6.8)
	U	0	(0)	8	(2)	23	(6)	60	(15)	113	(29)	95	(24)	93	(24)	0	(0)	392	(7.3)
2004 T	otal	11	(0.2)	196	(3.6)	443	(8.2)	858	(16.0)	1,821	(33.9)	1,165	(21.7)	878	(16.3)	0	(0.0)	5,372	
	-																		
2005	A	2	(0)	13	(3)	47	(11)	96	(23)	150	(36)	72	(17)	40	(10)	0	(0)	420	(8.1)
	В	1	(0)	20	(9)	70	(30)	50	(21)	72	(31)	15	(6)	5	(2)	0	(0)	233	(4.5)
	E .	0	(0)	24	(2)	69	(5)	190	(13)	484	(32)	417	(28)	331	(22)	0	(0)	1,515	(29.4)
	F	1	(0)	22	(2)	70	(6)	182	(16)	437	(39)	291	(26)	120	(11)	0	(0)	1,123	(21.8)
	н	0	(0)	13	(4)	39	(12)	73	(22)	110	(33)	52	(15)	50	(15)	0	(0)	337	(6.5)
	J	1	(1)	6	(6)	30	(31)	27	(28)	25	(26)	/	(7)	0	(0)	0	(0)	96	(1.9)
	U T	1	(0)	17	(3)	35	(6)	94	(15)	230	(37)	128	(21)	110	(18)	0	(0)	615	(11.9)
		0	(0)	15	(4)	35	(8)	100	(24)	162	(39)	63	(15)	38	(9)	0	(0)	413	(8.0)
2005 T			(0)	425	(1)	34	(0)	00	(10)	1.004	(32)	101	(25)	71	(17)	0	(0)	408	(7.9)
2005 1	otai		(0.1)	135	(2.0)	429	(0.3)	6//	(17.0)	1,601	(34.9)	1,140	(22.2)	765	(14.6)	U	(0.0)	5,160	
2006	Α	1	(0)	21	(5)	50	(11)	101	(22)	141	(31)	85	(19)	49	(11)	1	(0)	449	(8.6)
	в	0	(0)	25	(11)	63	(28)	47	(21)	68	(30)	13	(6)	9	(4)	1	(0)	226	(4.3)
	E	3	(0)	29	(2)	87	(5)	207	(13)	507	(32)	393	(25)	373	(23)	1	(0)	1,600	(30.7)
	F	1	(0)	17	(2)	51	(5)	170	(16)	435	(40)	290	(27)	122	(11)	0	(0)	1,086	(20.8)
	н	0	(0)	17	(5)	39	(12)	69	(22)	86	(27)	48	(15)	56	(18)	0	(0)	315	(6.0)
	J	0	(0)	6	(8)	16	(22)	26	(36)	21	(29)	2	(3)	1	(1)	1	(1)	73	(1.4)
	0	1	(0)	16	(2)	30	(5)	113	(17)	235	(36)	145	(22)	115	(18)	0	(0)	655	(12.6)
	т	1	(0)	14	(3)	27	(6)	103	(23)	152	(34)	88	(20)	57	(13)	0	(0)	442	(8.5)
	U	0	(0)	3	(1)	26	(7)	64	(17)	111	(30)	95	(26)	68	(19)	0	(0)	367	(7.0)
2006 T	otal	7	(0.1)	148	(2.8)	389	(7.5)	900	(17.3)	1,756	(33.7)	1,159	(22.2)	850	(16.3)	4	(0.1)	5,213	
Grand	Total	25	(0.2)	479	(3.0)	1,261	(8.0)	2,635	(16.7)	5,378	(34.2)	3,470	(22.0)	2,493	(15.8)	4	(0.0)	15,745	

Table 41 Admissions by unit discharge status and age, 2004 - 2006

			A	ge Group (	(Years)					
Unit discharge Status	<1		1-	4	5-1	0	11-1	5	Tota	I
	n	%	n	%	n	%	n	%	n	%
Alive	7,253	(49)	3,980	(27)	2,029	(14)	1,692	(11)	14,954	(95.0)
Dead	440	(56)	157	(20)	92	(12)	100	(13)	789	(5.0)
Unknown	1	(50)	1	(50)	0	(0)	0	(0)	2	-
Total	7,694	(48.9)	4,138	(26.3)	2,121	(13.5)	1,792	(11.4)	15,745	

Table 42 Admissions by	y un	it discharge status and age	(<1)	, 2004 - :	2006
	_				(

			A	ge Group (	Months)					
Unit discharge Status	<1		1-:	2	3-5		6-1	1	Total	
	n	%	n	%	n	%	n	%	n	%
Alive	2,583	(36)	1,630	(22)	1,399	(19)	1,641	(23)	7,253	(94.3)
Dead	222	(50)	84	(19)	61	(14)	73	(17)	440	(5.7)
Unknown	1	(100)	0	(0)	0	(0)	0	(0)	1	-
Total	2,806	(36.5)	1,714	(22.3)	1,460	(19.0)	1,714	(22.3)	7,694	

Table 43 Admissions by unit discharge status and sex, 2004 - 2006

				Sex							
Unit discharge Status	Male	e	Fema	ale	Ambig	uous	Unkn	lown	Total		
	n	%	n	%	n	%	n	%	n	%	
Alive	8,472	(57)	6,438	(43)	3	(0)	41	(0)	14,954	(95.0)	
Dead	431	(55)	355	(45)	0	(0)	3	(0)	789	(5.0)	
Unknown	2	(100)	0	(0)	0	(0)	0	(0)	2	-	
Total	8,905	(56.6)	6,793	(43.1)	3	(0.0)	44	(0.3)	15,745		

Table 44 Admissions by unit discharge status and sex (age <1), 2004 - 2006

Unit discharge Status	Male		Female		Ambiguous		Unknown		Total	
	n	%	n	%	n	%	n	%	n	%
Alive	4,311	(59)	2,918	(40)	1	(0)	23	(0)	7,253	(94.3)
Dead	242	(55)	195	(44)	0	(0)	3	(1)	440	(5.7)
Unknown	1	(100)	0	(0)	0	(0)	0	(0)	1	-
Total	4,554	(59.2)	3,113	(40.5)	1	(0.0)	26	(0.3)	7,694	

Year	NHS Trust	Alive	)	Dea	ad	Unkn	own	Tota	al
		n	%	n	%	n	%	n	%
		10.1							(0.0)
2004	Α	424	(96)	19	(4)	0	(0)	443	(8.2)
	В	283	(99)	2	(1)	0	(0)	285	(5.3)
	E	1,653	(93)	125	(7)	0	(0)	1,778	(33.1)
	F	1,110	(95)	55	(5)	0	(0)	1,165	(21.7)
	Н	283	(92)	25	(8)	0	(0)	308	(5.7)
	J	82	(100)	0	(0)	0	(0)	82	(1.5)
	0	534	(97)	19	(3)	0	(0)	553	(10.3)
	Т	355	(97)	11	(3)	0	(0)	366	(6.8)
	U	372	(95)	20	(5)	0	(0)	392	(7.3)
2004 T	otal	5,096	(94.9)	276	(5.1)	0	(0.0)	5,372	
2005	Α	411	(98)	9	(2)	0	(0)	420	(8.1)
	В	232	(100)	1	(0)	0	(0)	233	(4.5)
	E	1,409	(93)	106	(7)	0	(0)	1,515	(29.4)
	F	1,071	(95)	52	(5)	0	(0)	1,123	(21.8)
	Н	316	(94)	21	(6)	0	(0)	337	(6.5)
	J	95	(99)	1	(1)	0	(0)	96	(1.9)
	0	600	(98)	15	(2)	0	(0)	615	(11.9)
	т	398	(96)	15	(4)	0	(0)	413	(8.0)
	U	385	(94)	23	(6)	0	(0)	408	(7.9)
2005 T	otal	4,917	(95.3)	243	(4.7)	0	(0.0)	5,160	
2006	Α	441	(98)	7	(2)	1	(0)	449	(8.6)
	В	223	(99)	2	(1)	1	(0)	226	(4.3)
	E	1,481	(93)	119	(7)	0	(0)	1,600	(30.7)
	F	1,038	(96)	48	(4)	0	(0)	1,086	(20.8)
	н	284	(90)	31	(10)	0	(0)	315	(6.0)
	J	71	(97)	2	(3)	0	(0)	73	(1.4)
	0	637	(97)	18	(3)	0	(0)	655	(12.6)
	Т	427	(97)	15	(3)	0	(0)	442	(8.5)
	U	339	(92)	28	(8)	0	(0)	367	(7.0)
2006 T	otal	4,941	(94.8)	270	(5.2)	2	(0.0)	5,213	
Grand	Total	14,954	(95.0)	789	(5.0)	2	(0.0)	15,745	

Table 45 Admissions by unit discharge status by NHS trust, 2004 - 2006

Table 46 Admissions by unit discharge destination and age, 2004 - 2006

		Age Group (Years)										
Discharge Destination	<1		1-4		5-10		11-15		Total			
	n	%	n	%	n	%	n	%	n	%		
Normal residence	92	(24)	151	(39)	85	(22)	59	(15)	387	(2.6)		
Hospice	6	(55)	1	(9)	2	(18)	2	(18)	11	-		
Same hospital	5,501	(48)	3,068	(27)	1,625	(14)	1,373	(12)	11,567	(77.3)		
Other hospital	1,514	(56)	665	(25)	283	(11)	218	(8)	2,680	(17.9)		
Unknown	141	(45)	96	(31)	34	(11)	40	(13)	311	(2.1)		
Total	7,254	(48.5)	3,981	(26.6)	2,029	(13.6)	1,692	(11.3)	14,956			

Table 47 Standardised mortality ratios by trust, 2004

		-	Standardised Mortality Ratio										
	Number of	Unadjusted (95% CI) Adjusted (95% CI)											
NHS Trust	Admissions	SMR	Lower	Upper	SMR	Lower	Upper						
Α	449	0.82	0.50	1.27	1.34	0.82	2.08						
В	293	0.13	0.02	0.47	0.21	0.03	0.76						
E	1,817	1.37	1.15	1.62	1.09	0.91	1.28						
F	1,179	0.92	0.70	1.19	0.69	0.53	0.89						
Н	317	1.59	1.05	2.29	1.33	0.88	1.91						
J	82	0.00	0.00	0.85	0.00	0.00	1.23						
0	553	0.67	0.40	1.03	0.98	0.59	1.52						
Т	372	0.57	0.29	1.02	0.70	0.35	1.23						
U	394	0.99	0.61	1.50	0.72	0.44	1.09						

Figure 47a PICU Standardised mortality ratios by NHS trust with 99.9% control limits, 2004: unadjusted



Figure 47b PICU Standardised mortality ratios by NHS trust with 99.9% control limits, 2004: risk adjusted (PIM)



Table 48 Standardised mortality ratios by trust, 2005

		Standardised Mortality Ratio									
	Number of	Unadj	usted (95	% CI)	Adju	Adjusted (95% CI)					
NHS Trust	Admissions	SMR	Lower	Upper	SMR	Lower	Upper				
Α	425	0.49	0.24	0.90	0.61	0.29	1.10				
В	236	0.09	0.00	0.49	0.14	0.00	0.76				
E	1,546	1.49	1.23	1.79	1.03	0.86	1.24				
F	1,132	0.96	0.72	1.25	0.67	0.51	0.88				
н	340	1.36	0.86	2.02	1.24	0.79	1.85				
J	97	0.22	0.01	1.18	0.40	0.01	2.17				
0	618	0.51	0.29	0.83	0.68	0.38	1.11				
Т	419	0.75	0.42	1.22	0.93	0.53	1.52				
U	412	1.17	0.75	1.73	0.70	0.45	1.04				

Figure 48a PICU Standardised mortality ratios by NHS trust with 99.9% control limits, 2005: unadjusted



Figure 48b PICU Standardised mortality ratios by NHS trust with 99.9% control limits, 2005: risk adjusted (PIM)



Table 49 Standardised mortality ratios by trust, 2006

table to etalluar aloca mertality table by traci, 2000											
			Stan	dardised	Mortal	ty Ratio					
	Number of	Unad	ljusted (9	5% CI)	PIM A	djusted (9	95% CI)	PIM2 Adjusted (95% CI)			
NHS Trust	Admissions	SMR Lower Upper		SMR	Lower	Upper	SMR	Lower	Upper		
A	454	0.30	0.12	0.61	0.39	0.16	0.80	0.58	0.23	1.19	
В	234	0.16	0.02	0.59	0.32	0.04	1.13	0.45	0.05	1.60	
E	1,630	1.43	1.20	1.70	1.08	0.90	1.28	0.99	0.82	1.17	
F	1,100	0.84	0.62	1.11	0.68	0.50	0.90	0.60	0.44	0.79	
н	322	1.92	1.33	2.65	1.85	1.29	2.56	1.20	0.84	1.66	
J	74	0.52	0.06	1.82	0.70	0.08	2.42	0.96	0.12	3.35	
0	655	0.53	0.32	0.83	0.76	0.45	1.19	0.67	0.40	1.05	
Т	450	0.69	0.39	1.10	0.84	0.49	1.36	1.24	0.71	1.99	
U	369	1.46	0.98	2.08	0.81	0.55	1.16	0.88	0.59	1.26	

Figure 49a PICU Standardised mortality ratios by NHS trust with 99.9% control limits, 2006: unadjusted



Figure 49b PICU Standardised mortality ratios by NHS trust with 99.9% control limits, 2006: risk adjusted (PIM)



Figure 49c PICU Standardised mortality ratios by NHS trust with 99.9% control limits, 2006: risk adjusted (PIM2)



Table 50 Sta	tandardised mortality ratios combined by trust, 2004 - 2000												
			Stand	ardised M	<b>Nortality</b>	Ratio							
	Number of	Unadj	justed (95	% CI)	Adju	Adjusted (95% CI)							
NHS Trust	Admissions	SMR	Lower	Upper	SMR	Lower	Upper						
Α	1,328	0.54	0.38	0.74	0.74	0.52	1.02						
В	763	0.13	0.04	0.30	0.22	0.07	0.50						
E	4,993	1.43	1.29	1.58	1.07	0.96	1.18						
F	3,411	0.91	0.77	1.06	0.68	0.58	0.80						
Н	979	1.62	1.30	2.00	1.47	1.17	1.81						
J	253	0.24	0.05	0.68	0.36	0.07	1.04						
0	1,826	0.57	0.42	0.74	0.80	0.60	1.04						
Т	1,241	0.67	0.49	0.90	0.83	0.60	1.11						
U	1,175	1.20	0.94	1.50	0.75	0.59	0.94						

Table 50 Standardised mortality ratios combined by trust, 2004 - 2006

Figure 50a PICU Standardised mortality ratios by NHS trust with 99.9% control limits, 2004 - 2006 combined: unadjusted



Figure 50b PICU Standardised mortality ratios by NHS trust with 99.9% control limits, 2004 - 2006 combined: risk adjusted (PIM)





Figure 50c Risk adjusted mortality (PIM) by 2004 SHA in England and Wales, 2004 - 2006



Figure 50d Risk adjusted mortality (PIM) by 2006 SHA in England and Wales, 2004 - 2006

Table 51 Admissions by follow-up status and age, 2004 - 2006

		Age Group (Years)									
Follow-Up Status	us <1		1-4	1-4		0	11-15		Total		
	n	%	n	%	n	%	n	%	n	%	
Alive	1,297	(49)	712	(27)	320	(12)	292	(11)	2,621	(16.6)	
Dead	168	(71)	39	(17)	14	(6)	14	(6)	235	(1.5)	
Unknown	6,229	(48)	3,387	(26)	1,787	(14)	1,486	(12)	12,889	(81.9)	
Total	7,694	(48.9)	4,138	(26.3)	2,121	(13.5)	1,792	(11.4)	15,745		

Table 52 Admissions by follow-up status and age (<1), 2004 - 2006

			A	ge Group (	Months)					
Follow-Up Status	<1		1-:	2	3-5	i	6-11		Total	
	n	%	n	%	n	%	n	%	n	%
Alive	422	(33)	305	(24)	272	(21)	298	(23)	1,297	(16.9)
Dead	88	(52)	36	(21)	27	(16)	17	(10)	168	(2.2)
Unknown	2,296	(37)	1,373	(22)	1,161	(19)	1,399	(22)	6,229	(81.0)
Total	2,806	(36.5)	1,714	(22.3)	1,460	(19.0)	1,714	(22.3)	7,694	

Table 53 Admissions by follow-up status and sex, 2004 - 2006

				Sex						
Follow-Up Status	Male		Female		Ambiguous		Unknown		Total	
-	n	%	n	%	n	%	n	%	n	%
Alive	1,499	(57)	1,100	(42)	1	(0)	21	(1)	2,621	(16.6)
Dead	124	(53)	111	(47)	0	(0)	0	(0)	235	(1.5)
Unknown	7,282	(56)	5,582	(43)	2	(0)	23	(0)	12,889	(81.9)
Total	8,905	(56.6)	6,793	(43.1)	3	(0.0)	44	(0.3)	15,745	

				Sex						
Follow-Up Status	lp Status Male		Female		Ambiguous		Unknown		Total	
	n	%	n	%	n	%	n	%	n	%
Alive	777	(60)	506	(39)	1	(0)	13	(1)	1,297	(16.9)
Dead	96	(57)	72	(43)	0	(0)	0	(0)	168	(2.2)
Unknown	3,681	(59)	2,535	(41)	0	(0)	13	(0)	6,229	(81.0)
Total	4,554	(59.2)	3,113	(40.5)	1	(0.0)	26	(0.3)	7,694	

			-	Follow-L	Jp Status				
Year	NHS Trust	Aliv	e	Dea	ad	Unkno	wn	Tota	al
		n	%	n	%	n	%	n	%
2004	Α	19	(4)	0	(0)	424	(96)	443	(8.2)
	В	253	(89)	7	(2)	25	(9)	285	(5.3)
	E	0	(0)	0	(0)	1,778	(100)	1,778	(33.1)
	F	0	(0)	63	(5)	1,102	(95)	1,165	(21.7)
	н	18	(6)	0	(0)	290	(94)	308	(5.7)
	J	75	(91)	1	(1)	6	(7)	82	(1.5)
	0	482	(87)	0	(0)	71	(13)	553	(10.3)
	Т	0	(0)	0	(0)	366	(100)	366	(6.8)
	U	0	(0)	0	(0)	392	(100)	392	(7.3)
2004 T	otal	847	(15.8)	71	(1.3)	4,454	(82.9)	5,372	
2005	Α	32	(8)	1	(0)	387	(92)	420	(8.1)
	В	202	(87)	3	(1)	28	(12)	233	(4.5)
	E	0	(0)	0	(0)	1,515	(100)	1,515	(29.4)
	F	8	(1)	73	(7)	1,042	(93)	1,123	(21.8)
	Н	19	(6)	0	(0)	318	(94)	337	(6.5)
	J	72	(75)	4	(4)	20	(21)	96	(1.9)
	0	479	(78)	2	(0)	134	(22)	615	(11.9)
	т	0	(0)	0	(0)	413	(100)	413	(8.0)
	U	0	(0)	0	(0)	408	(100)	408	(7.9)
2005 T	otal	812	(15.7)	83	(1.6)	4,265	(82.7)	5,160	
2006	Α	4	(1)	1	(0)	444	(99)	449	(8.6)
	В	176	(78)	2	(1)	48	(21)	226	(4.3)
	E	0	(0)	0	(0)	1,600	(100)	1,600	(30.7)
	F	678	(62)	71	(7)	337	(31)	1,086	(20.8)
	н	5	(2)	1	(0)	309	(98)	315	(6.0)
	J	53	(73)	2	(3)	18	(25)	73	(1.4)
	0	0	(0)	0	(0)	655	(100)	655	(12.6)
	т	0	(0)	0	(0)	442	(100)	442	(8.5)
	U	46	(13)	4	(1)	317	(86)	367	(7.0)
2006 T	otal	962	(18.5)	81	(1.6)	4,170	(80.0)	5,213	
Grand	Total	2,621	(16.6)	235	(1.5)	12,889	(81.9)	15,745	

Table 55 Admissions by follow-up status by NHS trust, 2004 - 2006

		S	Source of P	revious Ad	mission			
NHS Trust	Same NH	S Trust	Other NH	S Trust	No Previous	Admission	Tota	ıl
	n	%	n	%	n	%	n	%
Α	227	(17)	27	(2)	1,058	(81)	1,312	(8.3)
В	187	(25)	27	(4)	530	(71)	744	(4.7)
E	1,104	(23)	298	(6)	3,491	(71)	4,893	(31.1)
F	909	(27)	199	(6)	2,266	(67)	3,374	(21.4)
н	206	(21)	68	(7)	686	(71)	960	(6.1)
J	21	(8)	24	(10)	206	(82)	251	(1.6)
0	453	(25)	62	(3)	1,308	(72)	1,823	(11.6)
т	275	(23)	73	(6)	873	(71)	1,221	(7.8)
U	111	(10)	82	(7)	974	(83)	1,167	(7.4)
Total	3,493	(22.2)	860	(5.5)	11,392	(72.4)	15,745	

Table 56 Re-Admissions by NHS trust and source of previous admission, 2004 - 2006

						Nu	mber o	f Admiss	sions									
NHS Trust	1		2		3		4			5		6		7	8	3+	Tota	al
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Α	882	(83)	111	(10)	47	(4)	7	(1)	7	(1)	2	(0)	0	(0)	2	(0)	1,058	(9.2)
В	385	(73)	87	(16)	25	(5)	14	(3)	7	(1)	3	(1)	1	(0)	8	(2)	530	(4.6)
С	0	(0)	1	(20)	2	(40)	1	(20)	1	(20)	0	(0)	0	(0)	0	(0)	5	-
D	0	(0)	0	(0)	2	(33)	1	(17)	2	(33)	0	(0)	1	(17)	0	(0)	6	-
E	2,733	(78)	486	(14)	157	(4)	66	(2)	23	(1)	12	(0)	5	(0)	9	(0)	3,491	(30.3)
F	1,646	(73)	392	(17)	140	(6)	49	(2)	15	(1)	7	(0)	5	(0)	12	(1)	2,266	(19.7)
G	0	(0)	1	(100)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	-
н	552	(80)	72	(10)	39	(6)	11	(2)	5	(1)	1	(0)	4	(1)	2	(0)	686	(6.0)
1	0	(0)	3	(50)	3	(50)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	6	-
J	148	(72)	35	(17)	13	(6)	3	(1)	4	(2)	0	(0)	1	(0)	2	(1)	206	(1.8)
к	0	(0)	1	(100)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	-
L	0	(0)	4	(67)	0	(0)	1	(17)	0	(0)	0	(0)	0	(0)	1	(17)	6	-
м	0	(0)	0	(0)	0	(0)	2	(50)	0	(0)	1	(25)	0	(0)	1	(25)	4	-
N	0	(0)	14	(56)	7	(28)	2	(8)	0	(0)	0	(0)	0	(0)	2	(8)	25	(0.2)
0	971	(74)	228	(17)	63	(5)	26	(2)	11	(1)	4	(0)	0	(0)	4	(0)	1,307	(11.3)
Р	0	(0)	1	(8)	5	(42)	2	(17)	2	(17)	1	(8)	0	(0)	1	(8)	12	(0.1)
Q	0	(0)	0	(0)	2	(40)	1	(20)	0	(0)	1	(20)	1	(20)	0	(0)	5	-
R	0	(0)	10	(36)	8	(29)	6	(21)	0	(0)	0	(0)	3	(11)	1	(4)	28	(0.2)
S	0	(0)	0	(0)	0	(0)	0	(0)	1	(100)	0	(0)	0	(0)	0	(0)	1	-
т	722	(83)	103	(12)	27	(3)	8	(1)	4	(0)	2	(0)	1	(0)	6	(1)	873	(7.6)
U	831	(85)	102	(10)	25	(3)	8	(1)	4	(0)	0	(0)	0	(0)	4	(0)	974	(8.4)
v	0	(0)	3	(50)	3	(50)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	6	-
w	0	(0)	9	(45)	7	(35)	4	(20)	0	(0)	0	(0)	0	(0)	0	(0)	20	(0.2)
x	0	(0)	4	(44)	3	(33)	1	(11)	0	(0)	1	(11)	0	(0)	0	(0)	9	-
Y	0	(0)	0	(0)	0	(0)	1	(100)	0	(0)	0	(0)	0	(0)	0	(0)	1	-
Total	8,870	(76.9)	1,667	(14.5)	578	(5.0)	214	(1.9)	86	(0.7)	35	(0.3)	22	(0.2)	55	(0.5)	11,527	

Table 58 Number of individual children b	v NHS trust and diagnostic group of first admission, 2004 - 2006

											Diag	gnosti	c Group																
NHS Trust	Blood / lyn	nphatic	Body wall an	nd cavities	Cardiov	ascular	Endocrine / r	netabolic	Gastroint	estinal	Infect	tion	Multisy	stem	Musculos	keletal	Neurolo	ogical	Once	ology	Respir	atory	Trau	ma	Oth	er	Missing	Tot	.al
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n %	n	%
A	14	(1)	22	(2)	28	(3)	32	(3)	105	(10)	57	(5)	12	(1)	48	(5)	205	(19)	149	(14)	220	(21)	80	(8)	85	(8)	1 (0)	1,058	(9.2)
В	4	(1)	32	(6)	16	(3)	19	(4)	100	(19)	38	(7)	0	(0)	7	(1)	64	(12)	7	(1)	166	(31)	22	(4)	50	(9)	5 (1)	530	(4.6)
С	0	(0)	0	(0)	1	(20)	1	(20)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	3	(60)	0	(0)	0	(0)	0 (0)	5	-
D	0	(0)	0	(0)	3	(50)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(17)	0	(0)	2	(33)	0	(0)	0	(0)	0 (0)	6	-
E	24	(1)	92	(3)	1,371	(39)	94	(3)	234	(7)	113	(3)	6	(0)	83	(2)	334	(10)	95	(3)	747	(21)	165	(5)	133	(4)	0 (0)	3,491	(30.3)
F	5	(0)	19	(1)	972	(43)	49	(2)	25	(1)	125	(6)	1	(0)	90	(4)	251	(11)	5	(0)	565	(25)	48	(2)	93	(4)	18 (1)	2,266	(19.7)
G	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100)	0	(0)	0	(0)	0	(0)	0 (0)	1	-
н	14	(2)	14	(2)	16	(2)	26	(4)	137	(20)	23	(3)	0	(0)	4	(1)	129	(19)	22	(3)	92	(13)	86	(13)	122	(18)	1 (0)	686	(6.0)
1	0	(0)	0	(0)	2	(33)	1	(17)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	3	(50)	0	(0)	0	(0)	0 (0)	6	-
J	6	(3)	15	(7)	6	(3)	6	(3)	54	(26)	6	(3)	0	(0)	0	(0)	31	(15)	4	(2)	57	(28)	3	(1)	17	(8)	1 (0)	206	(1.8)
к	0	(0)	0	(0)	1	(100)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0 (0)	1	-
L	0	(0)	0	(0)	1	(17)	1	(17)	0	(0)	0	(0)	0	(0)	0	(0)	1	(17)	0	(0)	3	(50)	0	(0)	0	(0)	0 (0)	6	-
м	0	(0)	0	(0)	0	(0)	0	(0)	1	(25)	0	(0)	0	(0)	0	(0)	1	(25)	0	(0)	2	(50)	0	(0)	0	(0)	0 (0)	4	-
N	0	(0)	0	(0)	14	(56)	0	(0)	3	(12)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	8	(32)	0	(0)	0	(0)	0 (0)	25	(0.2)
0	0	(0)	2	(0)	1,144	(88)	1	(0)	9	(1)	8	(1)	0	(0)	11	(1)	2	(0)	10	(1)	91	(7)	1	(0)	8	(1)	20 (2)	1,307	(11.3)
Р	0	(0)	0	(0)	7	(58)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	5	(42)	0	(0)	0	(0)	0 (0)	12	(0.1)
Q	0	(0)	0	(0)	1	(20)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(20)	0	(0)	3	(60)	0	(0)	0	(0)	0 (0)	5	-
R	0	(0)	0	(0)	10	(36)	0	(0)	4	(14)	1	(4)	0	(0)	0	(0)	1	(4)	2	(7)	10	(36)	0	(0)	0	(0)	0 (0)	28	(0.2)
S	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100)	0	(0)	0	(0)	0 (0)	1	-
т	19	(2)	11	(1)	15	(2)	18	(2)	113	(13)	44	(5)	1	(0)	13	(1)	120	(14)	147	(17)	281	(32)	54	(6)	36	(4)	1 (0)	873	(7.6)
U	26	(3)	3	(0)	39	(4)	40	(4)	23	(2)	114	(12)	0	(0)	0	(0)	237	(24)	2	(0)	419	(43)	9	(1)	37	(4)	25 (3)	974	(8.4)
v	0	(0)	0	(0)	4	(67)	0	(0)	1	(17)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(17)	0	(0)	0	(0)	0 (0)	6	
w	0	(0)	0	(0)	15	(75)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(5)	4	(20)	0	(0)	0	(0)	0 (0)	20	(0.2)
x	0	(0)	1	(11)	3	(33)	0	(0)	1	(11)	0	(0)	0	(0)	1	(11)	1	(11)	0	(0)	2	(22)	0	(0)	0	(0)	0 (0)	9	· -
Y	0	(0)	0	(0)	0	(0)	0	(0)	1	(100)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0 (0)	1	-
Total	112	(1.0)	211	(1.8)	3,669	(31.8)	288	(2.5)	811	(7.0)	529	(4.6)	20	(0.2)	257	(2.2)	1,379	(12.0)	445	(3.9)	2,685	(23.3)	468	(4.1)	581	(5.0)	72 (0.6)	11,527	

Table 59 Individual child a	dmissions by	/ diagnostic	group	and readmission	on status	, 2004	- 2006
		NI		of Administrations			

			Number of	Admission	IS			
Diagnostic Group	Sing	le	Multiple (	1 trust)	Multiple (2	+ trusts)	Tota	al
	n	%	n	%	n	%	n	%
Blood / lymphatic	87	(78)	19	(17)	6	(5)	112	(1.0)
Body wall and cavities	167	(79)	31	(15)	13	(6)	211	(1.8)
Cardiovascular	2,591	(71)	903	(25)	175	(5)	3,669	(31.8)
Endocrine / metabolic	242	(84)	24	(8)	22	(8)	288	(2.5)
Gastrointestinal	608	(75)	162	(20)	41	(5)	811	(7.0)
Infection	445	(84)	50	(9)	34	(6)	529	(4.6)
Missing	52	(72)	14	(19)	6	(8)	72	(0.6)
Multisystem	12	(60)	8	(40)	0	(0)	20	(0.2)
Musculoskeletal	218	(85)	30	(12)	9	(4)	257	(2.2)
Neurological	1,147	(83)	145	(11)	87	(6)	1,379	(12.0)
Oncology	329	(74)	100	(22)	16	(4)	445	(3.9)
Other	481	(83)	69	(12)	31	(5)	581	(5.0)
Respiratory	2,045	(76)	372	(14)	268	(10)	2,685	(23.3)
Trauma	446	(95)	14	(3)	8	(2)	468	(4.1)
Total	8,870	(76.9)	1,941	(16.8)	716	(6.2)	11,527	

						Pre	valence Ra	tes			
Sex	Age Group	Population	20	004 (95% C	I)	20	005 (95% C	I)	20	006 (95% C	I)
	(Years)	(2001 Census)	Rate	Lower	Upper	Rate	Lower	Upper	Rate	Lower	Upper
Male	<1	102,980	1,338	1,268	1,408	1,302	1,233	1,371	1,303	1,234	1,372
	1-4	430,040	177	164	190	167	155	179	175	163	188
	5-10	651,897	41	36	45	38	33	43	43	38	48
	11-15	531,557	57	50	63	53	47	59	51	45	57
Female	<1	98,892	980	919	1,041	926	867	986	909	850	968
	1-4	411,191	149	137	160	153	141	165	140	128	151
	5-10	622,531	36	32	41	38	33	42	36	31	41
	11-15	506,380	53	47	59	43	37	48	53	47	60
Total		3,355,468	142	138	146	137	133	140	138	134	141

Table 60 Age specific prevalence (per 100,000 per year) for admission to paediatric intensive care in the Pan Thames region, 2004 - 2006

## Table 61a Age-sex standardised prevalence (per 100,000 per year) for admissions to paediatric intensive care by 2004 SHA in the Pan Thames region, 2004 - 2006

								Preval	ence					
Country	SHA / HB	Population	20	04 (95% C	)	2	005 (95% C	I)	2	006 (95% C	I)	2004	- 2006 (95%	6 CI)
		(2001 Census)	Rate	Lower	Upper	Rate	Lower	Upper	Rate	Lower	Upper	Rate	Lower	Upper
England	Norfolk, Suffolk and Cambridgeshire	419,111	127	116	139	113	103	123	113	103	124	118	112	124
	Essex	325,771	106	95	118	91	80	101	99	88	110	99	92	105
	Bedfordshire and Hertfordshire	338,631	119	107	130	124	112	136	120	108	132	121	114	128
	North East London	338,340	156	143	169	141	129	154	151	138	164	149	142	157
	North Central London	231,673	143	128	158	136	122	151	135	121	150	138	130	147
	North West London	325,721	140	128	153	153	140	166	141	128	153	145	138	152
	South West London	249,993	169	154	185	159	144	174	154	139	169	161	152	169
	South East London	305,159	162	148	176	157	143	170	160	146	173	159	151	167
	Kent and Medway	333,181	126	113	138	127	114	139	117	105	130	123	116	130
	Surrey and Sussex	487,915	169	158	181	158	146	169	163	151	174	163	157	170
Total		3,355,495	142	138	146	136	132	140	136	132	140	138	136	140

## Table 61b Age-sex standardised prevalence (per 100,000 per year) for admissions to paediatric intensive care by 2006 SHA in the Pan Thames region, 2004 - 2006

								Preval	ence					
Country	SHA / HB	Population	2	004 (95% Cl	)	2	005 (95% C	I)	2	006 (95% Cl	)	2004	- 2006 (95%	% CI)
		(2001 Census)	Rate	Lower	Upper	Rate	Lower	Upper	Rate	Lower	Upper	Rate	Lower	Upper
England	East of England	1,083,270	119	112	125	111	104	117	114	108	121	115	111	118
	London	1,451,005	154	148	160	149	143	156	150	144	156	151	147	155
	South East Coast	821,193	152	144	161	146	137	154	145	137	153	148	143	153
Total		3,355,468	142	138	146	137	133	140	138	134	141	139	137	141

Figure 61a Age-Sex standardised prevalence (per 100,000 per year) for admissions to paediatric intensive care by 2004 SHA in England and Wales, 2004 - 2006



Figure 61b Age-Sex standardised prevalence (per 100,000 per year) for admissions to paediatric intensive care by 2006 SHA in England and Wales, 2004 - 2006



Figure 61c Age-Sex standardised prevalence (per 100,000 per year) for admissions to paediatric intensive care by 2006 PCO in England and Wales, 2004 - 2006



## APPENDIX A PARTICIPATING NHS TRUSTS AND HOSPITAL CHARACTERISTICS

NHS Trust	Participating Hospital	Unit / Ward	Number of ITU beds	Number of HDU beds	Type of unit
Brighton & Sussex University Hospitals NHS Trust	Royal Alexandra Hospital for Sick Children	Lydia Ward	1 <sup>a</sup>	1	General
Cambridge University Hospitals NHS Foundation Trust	Addenbrooke's Hospital	PICU	6	2	General
	Great Ormond Street Hospital for Children	CCCU	14-16 <sup>b</sup>	0	Cardiac
Great Ormond Street Hospital for Children NHS Trust	Great Ormond Street Hospital for Children	PICU & NICU	21	0	General & Neonatal Unit
Guy's & St. Thomas' NHS Foundation Trust	Evelina Children's Hospital	PICU	15	0	General & Cardiac
King's College Hospital NHS Trust	King's College Hospital	PICU	6	0	General & Hepatic & Neurosurgical
Royal Brompton & Harefield NHS Trust	Royal Brompton Hospital	PICU	10	4	Cardiac & Respiratory
St. George's Healthcare NHS Trust	St. George's Hospital	PICU	5	0	General
St. Mary's NHS Trust	St. Mary's Hospital	PICU	8	2	General
The Lewisham Hospital NHS Trust	University Hospital, Lewisham	PICU	1	2 <sup>c</sup>	General & Surgery

Notes: a Upon moving to the new Children's hospital in June 2007, the unit will run at 1 ITU bed, 2 medical HDU beds and 2 surgical HDU beds initially

- b The actual figure depends on the number of ECMO patients and HDU patients.
- c Flexed by a further 2 beds to support winter pressures
### APPENDIX B CLINICAL ADVISORY GROUP MEMBERSHIP

Name	Position	NHS Trust / Hospital	Period served
Dr Paul Baines	Consultant in Paediatric Intensive Care	Royal Liverpool Children's NHS Trust	2002 - present
		Alder Hey Hospital	
Ms Corenna Bowers	Sister	Cardiff & Vale NHS Trust	2002 - 2004
		University Hospital of Wales	
Dr Peter Davis	Consultant in Paediatric Intensive Care	United Bristol Healthcare NHS Trust	2006 - present
		Bristol Royal Hospital for Children	
Dr Andrew Durward	Consultant in Paediatric Intensive Care	Guy's & St Thomas' NHS Foundation Trust	2002 - present
		Evelina Children's Hospital	
Ms Georgina Gymer	Research Nurse	Nottingham University Hospitals NHS Trust	2005 - 2006
		Queen's Medical Centre	
Dr James Fraser	Consultant in Paediatric Intensive Care	United Bristol Healthcare NHS Trust	2002 – 2006
		Bristol Royal Hospital for Children	
Dr Hilary Klonin	Consultant in Paediatric Intensive Care	Hull & East Yorkshire Hospitals NHS Trust	2002 - present
		Hull Royal Infirmary	
Ms Christine Mackerness	Sister	Newcastle Upon Tyne Hospitals NHS Foundation Trust	2002 - present
		Newcastle General Hospital	
Ms Tina McClelland	Audit Sister	Royal Liverpool Children's NHS Trust	2006 - present
		Alder Hey Hospital	
Dr Jillian McFadzean	Consultant in Paediatric Intensive Care	NHS Lothian – University Hospitals Division	2005 - present
		Edinburgh Royal Hospital for Sick Children	
Ms Victoria McLaughlin	Audit Nurse	Central Manchester & Manchester Children's University Hospitals NHS Trust	2002 - present
		Royal Manchester Children's Hospital	
Dr Roddy O'Donnell	Consultant in Paediatric Intensive Care	Cambridge University Hospitals NHS Foundation Trust	2002 - present
		Addenbrooke's Hospital	
Ms Geralyn Oldham	Information Support Manager	Great Ormond Street Hospital for Children NHS Trust	2002 - present
		Great Ormond Street Hospital for Sick Children	
Dr Gale Pearson (Chair)	Consultant in Paediatric Intensive Care	Care Birmingham Children's Hospital NHS Trust	
		Birmingham Children's Hospital	
Dr Damian Pryor	Consultant in Paediatric Intensive Care	Cardiff & Vale NHS Trust	2002 - 2004
			1

		University Hospital of Wales	
Dr Allan Wardhaugh	Consultant in Paediatric Intensive Care	Cardiff & Vale NHS Trust	2004 - present
		University Hospital of Wales	
Ms Debbie White	Sister	Cambridge University Hospitals NHS Foundation Trust	2002 - present
		Addenbrooke's Hospital	

### APPENDIX C STEERING GROUP MEMBERSHIP

Name	Position	Organisation	Representation	Period Served
Mrs Pamela Barnes	Chair of Action for Sick	Action for Sick Children	Lay Member	2002 - present
	Children			
Professor Nick Black (Chair)	Head of Health Services	London School of Hygiene and Tropical Medicine	Health Services Research / Public	2002 - present
	Research Unit		Health	
Mr William Booth	Clinical Nurse Manager	United Bristol Healthcare NHS Trust	Royal College of Nursing	2002 - present
		Bristol Royal Hospital for Children PICU		
Ms Bev Botting	Child Health and Pregnancy	Office for National Statistics	Office for National Statistics (data	2002 - 2003
	Statistics		protection)	
Dr Jean Chapple	Consultant in Perinatal	Westminster Primary Care Trust	PICNET founder	2002 - 2006
	Epidemiology / Public Health			
Dr Bill Chaudhry	Consultant Paediatrician	Newcastle Upon Tyne Hospitals NHS Trust	Clinical IT	2002 - 2003
		Newcastle General Hospital PICU		
Dr Mark Darowski	Consultant Paediatric	Leeds Teaching Hospitals NHS Trust	Royal College of Anaesthetists	2002 - present
	Anaesthetist	Leeds General Infirmary PICU		
Mr Noel Durkin	Department of Health	Child Health Services Directorate	Department of Health	2002 - present
Dr Ian Jenkins	Consultant in Paediatric	United Bristol Healthcare NHS Trust	Paediatric Intensive Care Society	2006 - present
	Intensive Care	Bristol Royal Hospital for Children PICU		
Dr Steve Kerr	Consultant in Paediatric	Royal Liverpool Children's NHS Trust	Chair of PICS	2003 - present
	Intensive Care	Alder Hey Hospital PICU		
Ms Helen Laing	Clinical Audit	Healthcare Commission	Healthcare Commission	2004 - 2006
Mr Ian Langfield	Audit Co-ordinator	National Assembly of Wales	National Assembly of Wales	2002 - 2003
Dr Michael Marsh	Consultant in Paediatric	Southampton University Hospitals NHS Trust	Royal College of Paediatrics and Child	2002 - present
	Intensive Care	Southampton General Hospital PICU	Health	
Dr Jillian McFadzean /	Consultant in Anaesthesia &	NHS Lothian – University Hospitals Division	Edinburgh Royal Hospital for Sick	2005 - present
Ms Laura Reekie	Intensive Care / PA	Edinburgh Royal Hospital for Sick Children	Children	
Dr Roddy McFaul	Medical Advisor	Child Health Services Directorate	Department of Health	2002 - 2003
Dr Kevin Morris	Consultant in Paediatric	Birmingham Children's Hospital NHS Trust	Clinical Lead for the West Midlands	2006 - present

Name	Position	Organisation	Representation	Period Served
	Intensive Care	Birmingham Children's Hospital PICU	Medicines for Children Local Research Network	
Professor Jon Nicholl	Director of Medical Care Research Unit	School of Health and Related Research University of Sheffield	Health Services Research / Statistics	2002 - 2006
Dr Gale Pearson	Consultant in Paediatric Intensive Care	Birmingham Children's Hospital NHS Trust Birmingham Children's Hospital PICU	Chair of PICANet CAG	2002 - present
Ms Tanya Ralph	Nursing Research Lead	Sheffield Children's NHS Foundation Trust Sheffield Children's Hospital PICU	PICS	2002 - 2006
Dr Kathy Rowan (on sabbatical 2004 -, represented by Lucy Scott)	Director	ICNARC	Intensive Care National Audit & Research Centre	2002 - present
Mr Stuart Rowe	PCT Commissioner	Commissioning Department Hammersmith & Fulham PCT	PCT Commissioner (Pan-Thames)	2003 - present
Ms Dominique Sammut	Audit Co-ordinator	Health Commission Wales	Health Commission Wales	2003 - present
Dr Jennifer Smith	Medical Advisor	Office Project Team	Commission for Health Improvement	2002 - 2004
Dr Charles Stack	Consultant in Paediatric Intensive Care	Sheffield Children's NHS Foundation Trust Sheffield Children's Hospital PICU	PICS	2002 - 2006
Professor Stuart Tanner	Medical Advisor in Paediatrics and Child Health	Child Health Services Directorate Department of Health	Department of Health	2003 - 2006
Dr Robert Tasker	Lecturer in Paediatrics	Department of Paediatrics University of Cambridge Clinical School	PICS SG	2004 - present
Dr Edward Wozniak	Medical Advisor in Paediatrics and Child Health	Child Health Services Directorate Department of Health	Department of Health	2006 - present

### APPENDIX D DATA COLLECTION FORM

PICA 	Data Collection Fo	orm	Affix patient sticker here if required
Admission Inform Admission numb NHS Number Case note numb Address	Der	Family 2nd Far First na Date of If DOB e (or missing anonymise	name mily name me birth 1 = Estimated g, or partly 2 = Partly anonymised ad) 9 = N/K
Postcode Ethnic category Ethnic code	Use standard NHS ethnic category and code (see back of form)	Gestatio at delive (If age < 2 Sex (Tic Multiple	onal age       weeks       Answer range 20 to 44 wks         ery       Enter 99 if not known         years)       Male       Female         k one box)       Image: 1 = Singleton 2 = Twin         a = birth       I = Singleton 2 = Twin         3 = Triplet 4 = quad 9 = N/K         If not 1 or 9       Delivery order
Date of admission to your unit	on <b>20</b>	Time of to your	admission : unit
Type of admission to your unit (Tick one box)	Planned - following surgery Unplanned - following surgery Planned - other Unplanned	Previou admissi (during cui hospital st Care ar	IS ICU ICU PICU NICU None N/K ion I I I I I I I I I I I I I I I I I I I
Source of s admission ho Retrieval / trans If Yes, retrieved / transferred by	Same Other Clinic Home spital hospital  ifer Yes No Own team Other specialist team (PICU) Other specialist team N/K	(incida hospita	A & E

Primary	diagnosis	for this	admission
---------	-----------	----------	-----------

Other reasons for this admission

Operations or procedures performed during this admission

### Co-morbidity

### PIM/PIM2 - Medical History

Evidence available to assess past medical history' If yes tick appropriate box (es)	? Yes No	
Cardiac arrest before ICU admission	☐→If yes: cardiac arrest OUT of Hospital?	
Cardiomyopathy or myocarditis	Admitted following cardiac bypass	
Severe combined immune deficiency	Spontaneous cerebral haemorrhage	
Hypoplastic left heart syndrome	Neurodegenerative disorder	
Leukaemia / lymphoma after 1st induction	Severe developmental delay	
Liver failure (main reason for PICU admission)	Human Immunodeficiency Virus (HIV)	

#### PIM/PIM2 - Reason for admission

Please tick this box if the admission was elective:						
Please tick one of the boxes below if main reason for this PICU admission:						
Asthma	Croup	Recovery from s	surgery			
Bronchiolitis	Obstructive sleep ap	noea Diabetic ketoaci	dosis			
-						

PIM/PIM2 - Physiology (valid time period: from 1st face to face contact with a doctor until 1 hour after admission to your unit)

Systolic blood pressure		(mmHg)		Blood gas in 1st	hour	Yes	No
$PaO_2$ (arterial)	or · [[kPa]		Base excess (arterial / capillary) (indicate plus or minus)		nus)		
$FiO_2$ (at time of above sample)		(mmHg)		Pupil reaction	Both fixed & dilated	Othe reactio	r N/K
Mechanical ventilation	Yes	No	N/K	Intubation (at time of PaO <sub>2</sub> )	[	Yes	No N/K
CPAP (include mask / nasal / negative pressure)	Yes	No	N/K	Headbox (at time of PaO <sub>2</sub> )	[	Yes	No N/K

Invasive ventilation Yes No N/K	Non-invasive ventilation Yes No N/K					
If Yes total number of days given						
START invasive ventilation	START non- invasive ventilation					
END invasive ventilation	END non-invasive ventilation					
Please note that start and end dates are for ye	our reference only and are not submitted to PICANet					
Tracheostomy Yes No N/K	ECMO Yes No N/K					
IV vasoactive drugs Yes No N/K	LVAD Yes No N/K					
Renal support Yes No N/K	ICP device Yes No N/K					
(If Yes to Renal Support please tick treatments given)	(If Yes to ICP device please tick as appropriate)					
Haemofiltration	Ventricular drain					
Haemodialysis	ICP bolt					
Plasmafiltration P	lease note that ventilation for any part of a day					
Plasma exchange(midnight to midnight) is counted as one day.EXAMPLE: If a child started ventilation at 23:00						
Peritoneal dialysis C	nd stopped at 07:00 the next day this would be ounted as two days.					

#### Interventions during this admission to your unit

### **Discharge Information**

Status at discharge from your unit	
Alive Dead Discharged for Palliative	e care?
Date of discharge	Date of death
Time of discharge	Time of death
Destination following discharge from your unit	Follow up 30 days post discharge from your unit
Normal residence	Status Alive Dead N/K Date of death 2000 Normal residence N/K Hospice Same hospital CU PICU NICU HDU SCBU Ward Other

### Form completed by:

#### Comments

#### User defined fields

Variable name	Description		

#### Ethnic categories

These are the standard ethnic categories to be used for the collection of ethnicity information

Ethnic category									
а	White	British Irish Any other White background	A B C						
b	Mixed	White and Black Caribbean White and Black African White and Asian Any other mixed background	D E F G						
С	Asian and Asian British	Indian Pakistani Bangladeshi Any other Asian background	H J K L						
d	Black or black British	Caribbean African Any other Black background	M N P						
е	Other ethnic groups	Chinese Any other ethnic group	R S						
f	Not stated	Not stated	Z						

A query to picanet@leeds.ac.uk will reach every team member

Individual contact details

Roger Parslow 0113 343 4856 r.c.parslow@leeds.ac.uk Krishnan Thiru 020 7762 6713 ThiruK1@gosh.nhs.uk

Request	Name	Position & Place of work	Information requested	Status
date				
06/07/2004	Tom Blyth	Clinical Research Fellow	ASTHMA STUDY	Completed
		Department of Paediatric	For each month of the study (starting September 2003) the number of children admitted with asthma for each	
		Allergy, St Mary's Hospital,	hospital participating in the study, their ages, whether they were ventilated (and if so for how long) and the	
		London	length of PICU admission. The hospitals involved are -	
			Bristol, Southampton, Guys, Georges, GOS, Brompton, St Mary's, Leicester, Cambridge, Manchester, Alder	
			Hey, Cardiff, Sheffield, Nottingham*, North Staffs*.	
			(* - final approval to recruit not yet obtained).	
			I would also be interested in knowing a list of all PICUs on PICANet so I can see if I could approach any other	
			units.	
06/10/2004	Simon Nadel &	Consultant in Paediatric	RSY STUDY	Completed
	DoH	Intensive Care,	Number of children admitted to UK PICUs with a diagnosis of acute viral bronchiolitis, and/or (if possible) a	
		St Mary's Hospital London	diagnosis of RSV infection.	
19/04/2005	Sophie Lusby	Project Manager - Children's	NORTH EAST LONDON REQUEST	Completed
		Services	For North East London residents ONLY, for 2003/4 and 2004/5 as far as possible and all queries split by	
		Barts and the London NHS	period:	
		Trust	How many children treated in PIC?	
			Numbers/percentages by sex	
			• Numbers/percentages by age, splitting the ages into under 28 days, under 1 year, under 2 years, and	
			above	
			• What were the diagnoses of these children on admission? (numbers/percentages of different	
			diagnoses)	
			And of these please specify single/multi system failure (numbers/percentages of either)	
			Length of stay, in hours	
			Length of intubation, in hours (if not intubated please specify also)	
			Name of treating PIC (numbers and percentages)	
			LESS IMPORTANTLY BUT STILL REQUISITE:	
			Numbers by age, as above, but also 2-5 yrs, 5-10, 10 and above	
			Retrieval/Transfer – type	

### APPENDIX E DATA/INFORMATION REQUESTS RECEIVED TO DATE BY PAN THAMES

			Other reasons for admission	
			Co-morbidities	
			Discharge destination	
			Diagnosis on discharge	
			Any information on readmission	
29/05/2005	Simon Nadel	Consultant in Paediatric	SEPSIS STUDY	Pending
		Intensive Care, St Mary's	#The numbers of children admitted to PICUs with a primary or secondary diagnosis of sepsis.	
		Hospital, London	Is this community or nosocomially acquired?	
			What is the proportion of underlying co-morbidity?	
			What is the age spread?	
			Do you have information about aetiology (i.e. infecting organisms)?	
			How many children with "other" diagnoses (i.e. respiratory / neurological) have a primary infectious cause of	
			PICU admission?	
			What is the outcome?	
13/06/2005	Stuart Rowe	Lead Commissioner - Pan	PAN THAMES COMMISSIONERS' REQUEST	Completed
		Thames, Hammersmith and	All data will relate to residents with a postcode in the Pan Thames region and will cover the periods 2003/4	
		Fulham PCT	(April – March) and 2004/5 (April – March).	
			DATA BY YEAR AND BY SHA	
			PICU admissions by month	
			PICU admissions by gender	
			PICU admissions by age:	
			Age groups: ≤28 days, 29 days to <1 year, 1 to <2 years, 2 to <5 years, 5 to <10 years, 10 years plus.	
			PICU admissions by diagnosis on admission.	
			Diagnostic groups: Accidents & poisoning, Blood/lymphatic, Cardiovascular, Congenital,	
			Endocrine/metabolic, Gastrointestinal, Infection, Musculoskeletal, Neurological, Oncology, Perinatal,	
			Respiratory, Trauma, Urological, Other.	
			PICU admissions by intervention received:	
			Invasive ventilation, Non-invasive ventilation, ECMO, IV vasoactive drug therapy, LVAD, ICP device,	
			Renal support.	
			PICU admissions by length of stay	
			In hours: <1, 1 to <4, 4 to <12, 12 to <24, 24 plus.	
			In days: <1, 1 to <3, 3 to <7, 7 to <14, 14 to <28, 28 plus.	

			PICU admissions by days of invasive ventilation	
			In days: <1, 1 to 2, 3 to 5, 6 to 10, 11 plus.	
			PICU admissions by unit discharge status	
			Status: Alive or dead.	
			PICU admissions by unit discharge destination	
			Destination groups: Home, Same hospital, Other hospital.	
			Number of retrievals by team type	
			Team type: Own team, Other specialist team (PICU), Other specialist team (non-PICU), Non-specialist	
			team.	
			The above can all be done by month for an aggregated Pan Thames dataset.	
			UNIT LEVEL DATA BY YEAR AND BY PCT	
			• PICU admissions by treating unit (*anonymised until agreement received).	
			*Responsibility of Pan Thames to gain agreement from lead clinician.	
			The above can all be done by month for an aggregated Pan Thames dataset.	
13/06/2005	Stuart Rowe	Lead Commissioner - Pan	SUPPLEMENTARY REQUEST:	Completed
		Thames,	All data will relate to residents with a postcode in the Pan Thames region and will cover the periods 2003/4	
		Hammersmith and Fulham	(April – March) and 2004/5 (April – March).	
		PCT	DATA BY YEAR AND BY SHA	
			Number of retrievals by primary diagnostic group	
			Diagnostic groups: Accidents & poisoning, Blood/lymphatic, Cardiovascular, Congenital,	
			Endocrine/metabolic, Gastrointestinal, Infection, Musculoskeletal, Neurological, Oncology, Perinatal,	
			Respiratory, Trauma, Urological, Other	
			? More details for neurological	
			LTV patients	
			? Define LTV	
			? Data	
			PEthnicity / Mortality / Illness severity	
29/07/2005	Duncan	PICU Director, Royal	GLYCAEMIA CONTROL INTERVENTION TRIAL	Completed
	Macrae	Brompton Hospital	Numbers of admissions of children invasively ventilated	
			Numbers given inotropes	
			Whether they received cardiac surgery or not	
			Length of stay	
			Mortality at discharge.	

10/10/2005	Sophie Lusby	Project Manager - Children's	SUPPLEMENTARY REQUEST	Completed
		Services	Supplementary data to that in the report recently provided.	
		Barts and the London NHS		
		Trust	• Split LOS into <24 hrs, 24 to <48 hrs, 48 hrs plus	
			Look at number of days ventilated	
			Look at diagnosis	
06/12/2005	Corinne	Consultant in Public Health	TRENT BED OCCUPANCY	Completed
	Camilleri-	Medicine, TrentCOM	More information on the bed days in Nottingham (QMC), Sheffield and Leicester, particularly the split in	
	Ferrante		Sheffield between PIC and neonatal surgery beds.	
			The data as they currently appear do not seem logical and I understand that might be the problem.	
08/12/2005	Parviz Habibi	Consultant, St Mary's	BRONCHIOLITIS - MORTALITY	Completed
		Hospital	Annual death rate from bronchiolitis 2004	
02/03/2006	Anna Seale	SpR Paediatric Cardiology	Admissions with TAPVC / congeniatal pulmonary vein stenosis.	Completed (information
		Royal Brompton Hospital		returned to individual PICUs)
05/06/2006	Cornelia	Epidemiologist & Research	NEL PATIENTS STUDY	Completed
	Junghans	Fellow, Prognostic	For all patients in the NEL sector:	
		Epidemiology Group, UCL	Not currently in the manual but discussed with Roger Parslow:	
		Medical School	1. Individual Townsend score	
			2. Ethnicity obtained by name programme	
			3. Age in months	
			4. Survival in months	
			5. Primary diagnosis by diagnostic group	
			Data directly from the database:	
			1. ADDATE	
			2. ADTIME	
			3. SEX	
			4. ADTYPE	
			5. GEST	
			6. MULT	
			7. SOURCEAD	
			8. PREVICUAD	

	9. CAREAREAAD	
	10. RETRIEVAL	
	11. RETRIEVALBY	
	12. OTHDIAGNOTES	
	13. OTHDIAG	
	14. OPPROCNOTES	
	15. OPPROC	
	16. COMNOTES	
	17. COMDIAG	
	18. PRECEDCPR	
	19. PRECEHOSPCARDARR	
	20. CARDIOMYOCARDITIS	
	21. CARDIACBYP	
	22. SEVCOMBIMMUNE	
	23. SPONTCEREBHAEM	
	24. HIV	
	25. LIVERFAIL	
	26. LEUKLYMPH1ST	
	27. NEUROGENDIS	
	28. HYPOPLAS	
	29. ELECTIVEAD	
	30. PRIMREASON	
	31. INTUBATION	
	32. HEADBOX	
	33. MECHVENT	
	34. CPAPFIRSTHR	
	35. INVVENT	
	36. INVVENTDAY	
	37. NONINVVENT	
	38. NONINVVENTDAY	
	39. INTTRACHEOSTOMY	
	40. VASOACTIVE	
	41. LVAD	

		42. ICPVD	
		43. ICPBOLT	
		44. RENALSUPPORT	
		45. RENALHAEMFIL	
		46. RENALHAEMDIA	
		47. RENALPLASFILT	
		48. RENALPLASEXCH	
		49. RENALPERIDIA	
		50. UNITDISSTATUS	
		51. DISPALCARE	
		52. UNITDISDATE	
		53. UNITDISTIME	
		54. UNITDISDEST	
		55. UNITDISDESTHOSP	
		56. COMMENTS	
Jonathan	Consultant, St George's	ONCOLOGY STUDY	Completed
Round	Hospital PICU, Tooting	Raw data on all patients admitted to PICU's in the UK with oncology coding. Data required on: age, sex,	
		oncology diagnosis, and where in treatment (may not be in picanet dataset), if had bone marrow transplant,	
		other diagnoses, PIM data at admission, if ever ventilated (invasive or non-invasive) or received inotropes,	
		outcome, LOS and status at 30 days. I also need source of admission, planned/unplanned and post surgery.	
Noel Durkin	Department of Health	CARDIAC	Completed
		Essentially we are looking for the following data	
		- activity by cardiac procedure code	
		- broken down by new PCT (if possible) but more importantly by known paediatric cardiac centre	
		- broken down also by age groups	
		(Neonates [1-30 days], infants [31 -365 days], children [1 -16], adult [16+])	
		- in a form which will enable us to look at patient flows to known centres, including for specific conditions	
		- most recent data available 2004 and 2005 (and 2006 if available).	
Robert Tasker	Consultant PICU,	BACTERAEMIA	Pending
& Mike	Addenbrooke's & Consultant	Admission information	
Sharland	in Paediatric Infectious	PIM data	
	Disease, St George's	Interventions	
	Jonathan Round Noel Durkin Robert Tasker & Mike Sharland	Image: Noel DurkinConsultant, St George's Hospital PICU, TootingNoel DurkinDepartment of HealthRobert Tasker & MikeConsultant PICU, Addenbrooke's & Consultant in Paediatric Infectious Disease, St George's	Round       42. (CPV0         43. (CPB0LT       43. (CPB0LT         44. RENALSUPPORT       45. RENALHAEMFIL         45. RENALHAEMFIL       46. RENALUPASFILT         46. RENALPLASFILT       48. RENALPLASFILT         48. RENALPLASFILT       49. RENALPERIDIA         50. UNITOISOTATUS       50. UNITOISOTATUS         51. DISPALCARE       52. UNITOISOTATE         52. UNITOISOTATE       53. UNITOISOTATE         53. UNITOISOTATE       54. UNITOISOTATE         54. UNITOISOTATE       55. UNITOISOTATE         55. UNITOISOTATE       56. UNITOISOTATE         56. UNITOISOTATE       56. UNITOISOTATE         56. UNITOISOTATE       56. UNITOISOTATE         50. UNITOISOTATE       50. UNITOISOTATE         70. COLOCY STUDY       Raw data on all patients admited to PICU's in the UK with oncology coding. Data required on: age,

			Discharge information	
			Ethnic category	
22/11/2006	David Inwald	Consultant in PICU, St	ST MARY'S ADMISSIONS	Completed
		Mary's NHS Trust	Admissions	
			1. Total Admissions (November 05- November 06)	
			2. Totl intubated	
			3. Percentage with an endothracheal tube receiving ventilation	
			4. for up to 6 hours	
			5. more than 6 hours up to 12 hours	
			6. More than 12 hours	
			7. Total retrieved	
			8. Total presenting from A&E	
			9. Total post-surgery by specialiy	
			10. Total numbers according to types of medical conditions	
			11. Breakdown of patient numbers according to age	
			a. Preterm - please give numbers and specific gestational ages	
			b. Birth to 30 days	
			c. 31 days to one year	
			d. > 1 year to 2 years	
			e. > 1 year to 2 years	
			f. > 2 years to 5 years	
			g. > 5 years to 10 years	
			h. >10 years to 15 years	
			i. > 15 years to 18 years	
			j. > 18 years	
			12. Mean length of PICU admission (nights)	
			13. Median length of PICU admission (nights) Outcome:	
			14. Mortality (total number)	
			15. Mortality (percentage of total admissions)	

16/04/2007	Padmanabhan	Consultant in Paediatric	READ CODES	Completed
	Ramnarayan	Intensive Care & Retrieval,	Read-coded terms recorded as part of the PICANet dataset, i.e. diagnoses, procedures, other co-morbid	
		<b>PICS Informatics Special</b>	conditions, interventions and complications. Patient-identifiable information is not required.	
		Interest Group and Study	We are seeking data from a 2-year period 2004-2006.	
		Group Lead		
18/04/2007	Mark Peters	Clinical Unit Chair, P/NICU,	RESPIRATORY FAILURE	Completed
		Great Ormond Street	Age / gestation / LOS / outcome / PIM score and diagnostic coding for all cases of respiratory failure	
		Hospital.		
18/04/2007	Jonathan	Consultant, St George's	ONCOLOGY	Pending
	Round	Hospital PICU, Tooting	January 2003 to December 2006 data on PICU patients with a primary oncology diagnosis.	
			All information on these patients except name. DOB needed to match with DOB from oncology datasets at a	
			later stage.	

### APPENDIX F MONTHLY ADMISSIONS REPORT

Admissions		SITEID																													
Year	Month	1	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	31	Total
2004	1	109	23	71	33	39	99	56	34	89	133	114	20	48	29	42	10	54	19	26	35	18	30	28	3	44	29	5	45		1285
	2	92	36	70	35	24	77	56	37	89	143	87	22	50	18	39	4	53	7	19	33	24	24	33	7	47	20	8	56		1210
	3	86	35	50	43	27	68	46	40	104	167	106	20	53	28	39	12	58	18	23	25	28	43	31	3	53	22	2	48		1278
	4	87	20	51	37	25	87	55	24	78	149	102	23	36	27	27	8	52	11	31	31	23	26	28	7	48	16	7	38		1154
	5	71	12	54	34	15	78	50	31	75	151	101	36	44	43	33	4	45	13	28	37	18	25	28	4	46	23	2	42		1143
	6	70	16	54	33	13	77	63	46	84	161	92	31	51	29	23	9	43	14	25	28	14	37	33	6	54	17	4	39		1166
	7	72	18	47	39	23	60	51	32	76	160	92	26	53	34	29	5	46	17	18	30	18	26	27	7	41	13		39		1099
	8	78	23	45	28	18	66	53	38	74	162	75	22	47	28	23	5	40	18	25	22	21	42	33	8	53	12	3	28		1090
	9	82	24	52	44	19	67	41	19	84	158	80	28	41	30	27	9	47	9	22	32	33	37	16	8	50	21	3	28		1111
	10	74	24	50	44	11	72	32	29	70	138	97	25	48	31	34	7	51	18	27	23	18	26	32	9	74	21	3	43		1131
	11	90	32	57	44	24	57	52	30	79	145	105	27	51	40	43	6	60	15	22	25	21	36	24	4	60	19	4	39		1211
	12	85	30	60	35	30	70	39	36	91	150	128	37	31	35	35	3	49	15	31	22	25	28	27	7	44	21	4	47	23	1238
2004 Total		996	293	661	449	268	878	594	396	993	1817	1179	317	553	372	394	82	598	174	297	343	261	380	340	73	614	234	45	492	23	14116
2005	1	73	33	55	34	24	79	38	35	91	150	95	22	56	33	36	18	64	19	20	31	20	28	17	6	50	24	5	43	34	1233
	2	73	20	64	39	31	81	35	30	87	98	92	31	43	36	35	5	40	13	17	27	29	36	29	8	59	24	1	48	37	1168
	3	92	13	60	45	22	68	58	45	77	133	103	27	39	55	34	9	64	18	24	32	24	26	25	5	46	24	9	39	42	1258
	4	74	22	56	31	24	72	43	39	86	132	89	29	46	31	34	5	53	18	24	23	18	26	19	7	58	16	2	49	33	1159
	5	81	23	60	40	20	68	58	30	100	129	73	26	37	29	30	13	44	14	23	20	18	26	28	6	57	24	4	34	29	1144
	6	78	12	71	34	24	69	36	31	101	127	97	38	58	31	27	9	35	9	31	35	22	36	30	8	55	21	5	40	35	1205
	7	75	16	60	39	25	74	32	30	79	153	103	36	65	31	30	11	55	8	26	27	26	29	16	7	53	22	4	41	28	1201
	8	66	9	59	32	16	54	46	32	75	134	88	23	60	35	21	7	44	12	26	27	22	26	24	7	61	24	6	36	47	1119
	9	85	20	59	31	20	66	48	29	78	115	85	27	50	34	30	5	55	20	32	18	28	34	30	10	71	23	2	40	40	1185
	10	63	23	60	31	20	76	33	36	91	119	75	20	61	34	39	4	45	11	25	23	16	36	26	11	61	23	3	33	37	1135
	11	77	24	58	37	23	76	33	36	96	117	113	31	56	34	50	6	48	19	28	30	24	31	31	9	63	32	4	61	28	1275
	12	84	21	53	32	25	88	43	26	73	139	119	30	47	36	46	5	50	24	36	21	33	23	22	5	54	35	5	51	37	1263
2005 Total		921	236	715	425	274	871	503	399	1034	1546	1132	340	618	419	412	97	597	185	312	314	280	357	297	89	688	292	50	515	427	14345

Admissions		SITEID																													
Year	Month	1	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	31	Total
2006	1	92	15	66	30	37	77	44	34	108	137	103	29	54	39	38	5	68	16	27	27	41	42	29	12	70	28	5	31	32	1336
	2	68	29	51	47	30	80	28	35	104	113	104	18	45	46	35	6	59	12	22	31	27	33	21	4	59	19	7	48	35	1216
	3	68	23	66	35	30	80	42	32	116	152	89	17	47	41	39	7	49	17	27	40	27	40	22	7	67	26	4	42	48	1300
	4	88	13	52	27	18	65	49	33	83	134	91	25	50	36	27	7	46	17	32	33	26	41	22	7	51	31	4	40	39	1187
	5	90	19	57	39	25	80	51	29	90	138	88	28	64	31	40	7	49	19	25	22	28	36	17	11	64	19	2	30	38	1236
	6	79	17	58	40	20	65	52	31	101	142	84	28	55	31	23	5	37	19	15	40	25	25	26	7	62	27	3	43	33	1193
	7	99	15	54	37	21	80	42	27	88	155	84	32	52	46	24	2	50	15	20	20	21	37	18	5	46	21	2	29	29	1171
	8	106	23	50	35	22	65	48	22	82	140	79	30	72	36	15	3	42	13	19	32	14	34	23	11	49	25	2	26	39	1157
	9	82	21	53	36	21	63	46	24	70	143	88	26	52	37	23	5	47	17	16	30	32	31	23	8	53	30	3	28	25	1133
	10	92	15	45	48	27	88	61	28	78	127	86	26	65	30	37	5	46	14	23	25	19	36	29	5	59	32		47	39	1232
	11	101	27	53	32	28	78	42	35	101	132	90	32	60	35	35	12	51	14	22	30	26	35	27	6	57	28	2	41	39	1271
	12	99	17	54	48	30	108	25	35	98	117	114	31	39	42	33	10	41	17	28	25	21	32	18	7	55	32	3	33	35	1247
2006 Total		1064	234	659	454	309	929	530	365	1119	1630	1100	322	655	450	369	74	585	190	276	355	307	422	275	90	692	318	37	438	431	14679
Total		2981	763	2035	1328	851	2678	1627	1160	3146	4993	3411	979	1826	1241	1175	253	1780	549	885	1012	848	1159	912	252	1994	844	132	1445	881	43140

### APPENDIX G ERROR RATE REPORT

## PICA

### Unit import and error status report

January 2004 - December 2006

	Last			First	Most recent	Missing	Out of	Invalid	Logic		Check	Invalid	Uncoded			Error
SITEID	imported	ExportID	Admissions	admission	admission	value	range	value	violation	Incongruity	value	code	reason	Total		rate
25	22/02/2007	113	252	05/01/2004	29/12/2006									0		0.000
13	13/04/2007	105	979	02/01/2004	29/12/2006									0		0.000
10	18/04/2007	126	3146	02/01/2004	31/12/2006									0	l [	0.000
15	29/01/2007	98	1241	01/01/2004	31/12/2006									0		0.000
22	13/04/2007	85	848	04/01/2004	30/12/2006									0	i l	0.000
20	01/05/2007	98	885	01/01/2004	31/12/2006									0		0.000
6	09/05/2007	70	2678	02/01/2004	31/12/2006									0		0.000
9	22/02/2007	255	1160	02/01/2004	31/12/2006									0	i l	0.000
26	23/03/2007	100	1994	01/01/2004	30/12/2006	1								1		0.001
4	17/05/2007	264	1328	01/01/2004	31/12/2006				1					1		0.001
24	19/04/2007	124	912	01/01/2004	31/12/2006	1								1	i l	0.001
31	04/04/2007	113	881	07/12/2004	30/12/2006							1		1		0.001
11	29/03/2007	76	4993	01/01/2004	31/12/2006	1	2			2	2			7		0.001
14	31/01/2007	45	1826	02/01/2004	30/12/2006	1				1		1		3		0.002
8	16/05/2007	147	1627	01/01/2004	31/12/2006	3								3	l [	0.002
27	01/05/2007	183	844	01/01/2004	31/12/2006	2								2		0.002
23	09/05/2007	326	1159	01/01/2004	31/12/2006	3					1			4		0.003
16	01/05/2007	55	1175	01/01/2004	30/12/2006	4					1			5	1	0.004
3	17/04/2007	94	2035	01/01/2004	31/12/2006	2			1	10	2	2		17	1	0.008
18	30/03/2007	84	1780	01/01/2004	29/12/2006	16								16	l [	0.009
29	04/05/2007	165	1445	01/01/2004	30/12/2006	11					2			13	1	0.009
5	16/05/2007	145	851	01/01/2004	30/12/2006	10								10		0.012
19	19/03/2007	324	549	02/01/2004	30/12/2006	10								10		0.018
28	10/05/2007	159	132	05/01/2004	28/12/2006	2					1			3		0.023

12	28/02/2007	8	3411	01/01/2004	31/12/2006	90		7	1	4	3	2		107	0.031
21	09/03/2007	49	1012	02/01/2004	31/12/2006	53	1		1		1			56	0.055
17	23/02/2007	78	253	02/01/2004	25/12/2006	14				1				15	0.059
2	17/01/2007	199	763	01/01/2004	30/12/2006	64			1					65	0.085
1	23/03/2007	20	2981	01/01/2004	31/12/2006	282	24		7	37	4	39		393	0.132
			43140			570	27	7	12	55	17	45	0	733	0.017

Last imported: the date on which the data was most recently exported

**ExportID**: the ID of the most recent export (this increments with each export)

Total admissions: the number of admissions during the time period of this report

First admission: the earliest admission date included in this report

Most recent admission: the latest admission date included in this report

Missing value: value missing when required

Out of range: value outside normal ranges (as specified in the manual)

**Invalid value**: value not valid (e.g. wrongly enumerated code)

Logic violation: illogical values supplied (e.g. a discharge date before an admission date)

Incongruity: value supplied when not required (e.g. a retrieval team specified when the patient was not retrieved)

### APPENDIX H POLICY FOR UNITS FALLING OUTSIDE THE CONTROL LIMITS

PICANet policy on PICUs lying outside the control limits of the mortality ratio funnel plots (PICANet November 2005)

### Background – mortality ratios and funnel plots

PICANet is required by the Department of Health to report on the mortality outcomes of all children admitted for paediatric intensive care. The PICANet Clinical Advisory Group and Steering Group recommended that the mortality outcomes from each PICU be adjusted for the illness severity of the child at admission using the Paediatric Index of Mortality (PIM).<sup>1</sup> PICANet reports the unadjusted mortality outcome from all PICUs and a mortality ratio based on the ratio of observed mortality in each PICU to the expected mortality calculated using PIM. From 2005, revised coefficients for PIM have been used derived from the recently completed United Kingdom Paediatric Intensive Care Outcome Study.<sup>2</sup> PIM2<sup>3</sup> has been used for riskadjustment in this report for 2006 only and will be used in future reports as the data become available.

Earlier work published by members of PICANet team<sup>4</sup> has highlighted the problems of attempting to rank PICUs on their annual mortality, whether unadjusted or adjusted. PICANet, however, has also recognised the need to identify units which appear to have outcomes very different to other units. Consequently, PICANet has published a funnel plot of the observed to expected mortality ratio of individual PICUs. The funnel plots are constructed in such a way that there is an approximately 5% chance of a PICU falling outside the control limits, if the distribution of the mortality ratios is random.

The mortality ratio is calculated for each PICU by dividing the expected number of deaths calculated using the published PIM algorithm by the observed number of deaths for each PICU. The mortality ratio is then plotted on the y-axis against the number of admissions to the PICU on the x-axis. In order to satisfy the condition that if the overall distribution of the mortality ratios is random there exists an approximately 5% chance of a PICU falling outside the control limits, then the upper and lower control limits constructed at an individual PICU level must represent not 95% confidence intervals, but 99.9% confidence intervals around a mortality ratio of 1 by number of admissions.<sup>5</sup> This is analogous to increasing the confidence interval (or significance level) when correcting for multiple comparisons in data containing numerous groups.

### **Data outliers**

- A PICU whose mortality ratio lies outside of these control limits will be identified as having returned data that is markedly different to the other PICUs.
- It is important to note that a PICU lying outside the control limits is not sufficient evidence to suggest a PICU has either markedly higher or markedly lower mortality than the other PICUs, it merely indicates that the data they have returned is different to that of other PICUs.
- For those PICUs that do lie outside the control limits, the principals of clinical governance should apply:
  - PICANet will raise the issue with the lead clinician of the PICU and the Trust Chief Executive
  - PICANet will work with the PICU and the Trust, following the plan below until the issue is resolved.

In these circumstances, PICANet will:

- 1) Review the data to investigate whether there are data driven reasons for a PICU lying outside of the control limits (it is known that risk-adjustment tools can be unreliable when a PICU has a particularly high proportion of patients at either end of the bounds of the tool.)
- Review the data quality of the PICU. The quality of the data is the PICUs' responsibility. PICANet will provide feedback from PICU visits and central validation procedures. PICUs will be expected to check the quality of individual data items.
- 3) Plot the data quality indicators over time to identify whether the anomaly can be traced to a certain data collection period.
- 4) Plot the mortality ratio over time to identify whether the anomaly can be traced to a certain data collection period.
- 5) Plot the observed mortality over time to identify whether the anomaly can be traced to a certain data collection period.
- 6) Plot the expected mortality over time to identify whether the anomaly can be traced to a certain data collection period.
- 7) Investigate the primary reason for admission to the PICU. If the PICU has a markedly high proportion of some primary reason of admission to the PICU compared with other PICUs this may suggest further refinements to the risk-adjustment method are required.
- 8) Produce a brief summary report of the above to be forwarded to the lead clinician and Chief Executive at the PICU concerned, together with an invitation to meet in person to review the data with the PICANet team.

Where reference is made to the Chief Executive, it is accepted that they may be represented by their clinical governance lead.

**NOTE:** Excess mortality in particular sub-groups of patients or associated with other aspects of service provision may be identified using different statistical methods. The process outlined above will be implemented wherever anomalous results/outliers are identified.

### References

- 1) Parry GJ, Gould CR, McCabe CJ, Tarnow-Mordi WO. Annual league tables of hospital mortality in neonatal intensive care: A longitudinal study. BMJ 1998; 316:1931-1935.
- 2) Brady AR, Harrison D, Black S, Jones S, Rowan K, Pearson G, Ratcliffe J, Parry GJ, on behalf of the UK PICOS Study Group. Assessment and Optimization of Mortality Prediction Tools for Admissions to Pediatric Intensive Care in the United Kingdom. Pediatrics 2006; 117: 733-742.
- Shann F, Slater A, Pearson G. PIM 2: a revised version of the Paediatric Index of mortality. Intensive Care Med 2003; 29:278-285
- Shann F, Pearson G, Slater A, Wilkinson K, Paediatric index of mortality (PIM): a mortality prediction model for children in intensive care. Intensive Care Med 1997; 23:201-207
- 5) Spiegelhalter D. Funnel plots for institutional comparison. Qual. Saf. Health Care, Dec 2002; 11: 390-391.

### APPENDIX I PAN THAMES HEALTH INFORMATICS GROUP TERM OF REFERENCE

### **Terms of Reference**

### 1. Overall Purpose

To develop and evaluate systems for the collation, analysis and interpretation of operational and clinical audit information relating to the provision of paediatric intensive care, including inpatient and dedicated ambulance retrieval services to the population within the Pan Thames Region.

### 2. Reports to

The Pan Thames PICU Commissioning Consortium

### 3. Key Objectives

• To exchange information with clinicians and managers and feed in clinical and operational management options through the Chair of the consortium

• To ensure the right project management systems and processes are in place and able to monitor performance

• To oversee the ongoing design and development of the financial and activity data collection and reporting systems for PICU

• To ensure that PIC investment is monitored and that appropriate clinical audit and finance and activity performance monitoring systems are in place.

• To co-ordinate the ongoing development of the clinical dataset for paediatric intensive care provision

• To develop proposals for improving systems used for collating information on case mix, HRG's, illness severity and outcome measures and to feed these into the Consortium and PICANET steering groups.

• To initiate and secure funding and to develop evidence-based research programmes and activities, which support the delivery of the objectives of the PICU consortium.

### 4. Aims for Communication / Links

- To work closely with the Specialist Commissioning and professional Groups and Working Groups and other bodies that may have a joint interest and overlap of responsibility for Health Informatics.
- To develop relationships with outside bodies in the Health Informatics for mutual development of policies.

- To ensure robust representation and working links with other related groups such as the National PICANet Steering Group, the London SCG sub Groups and the DOH Expert Working Groups.
- To open membership to academic leads with a background in health informatics, for the purpose of ensuring academic rigor..
- To invite guest speakers to meetings, as appropriate.
- To establish links with the Ghandi (Generic Handover Investigation) Project and SEND (South Eastern Neonatal Database).

### 5. Membership

- The Chair and deputy Chair will be appointed by the PICU consortium.
- Membership will include all pan Thames PCTs and PICU and HDU units and related services including Retrievals and Nursing / HDU group
- One clinical and one non-clinical member from each provider unit will be identified as lead contacts.
- Membership listed in section 9.

### 6. Frequency

• The first full meeting will take place in June 2006 and will repeat quarterly thereafter

### 7. Approval

- These Terms of Reference shall be approved by the main meeting of the PICU Consortium.
- The Consortium will review them on an annual basis.

### 8. Membership lists

### **Regional PHiG**

Chair: Commissioning Lead Stuart Rowe Deputy Chair and Clinical Lead Ramnarayan Padmanabhan

### Secretary & PICANet Lead Krishnan Thiru

### Invited members: Pan Thames PICANet Leads

Anne Abreu	Roddy O'Donnell
Kathy Brennan	Geralyn Oldham
Duncan Macrae	Karen Simpson
Andrew Durward	Princess Thomas
Yaya Egberongbe	Judith Walker
Jo Goddard	James Woods
David Inwald	Mamta Vaidya
Carol Kennelly	Alison Greene
Catherine Leong	Sagal Kullane

### Local PICU Informaticians

Jonathan Round	Andrea Ferns
Nigel Humphreys	Peter Woodward
Katie Wright	Rebecca Randell

### Proposed structure:

### National PHiG

Chair and Clinical Lead:	Ramnarayan Padmanabhan
Deputy and PICANet Lead:	Krishnan Thiru
Commissioning Leads:	Stuart Rowe
Invited members:	National PICANet Leads and PICU Informaticians

### APPENDIX J SOUTH EAST REGION PROFESSIONALS GROUP FOR LONG TERM VENTILATION AND COMPLEX NEEDS TERMS OF REFERENCE

### 1. Overall Purpose

To develop discharge planning procedures for children requiring long term ventilation/complex needs within the Pan Thames Region.

### 2. Reports to

The Pan Thames PICU Commissioning Consortium.

### 3. Key Objectives

- To standardise competency documents for staff training
- To develop training and accreditation to standards
- To standardise equipment lists for children requiring LTV
- To highlight areas of risk and develop recommendations
- To standardise medical documentation
- To provide recommendations for accreditation of private agency/care providers
- To review areas of resource deficits and report to PICU consortium
- To exchange information with clinicians and managers and to feed clinical and operational management options through the Chair of the consortium

### 4. Aims of Communication/Links

- To work closely with the Specialist Commissioning and Professional Groups and Working Groups and other bodies that may have a joint interest and overlap of responsibility for discharge planning
- To network with other outside agencies involved in discharge planning for joint development of policies
- To ensure robust representation and working links with other related groups such as the UK Working Party for Long Term Ventilation and DOH Expert Working Groups
- To ensure membership will be open to academic leads with a background in Long Term Ventilation and Complex Needs
- To invite guest speakers to meetings, as appropriate

### 5. Membership

- The Chair and deputy Chair will be appointed by the PICU Consortium
- Membership will include all Pan Thames Primary Care Organisations/ PICU/HDU units and private care providers/agencies
- One member from each provider unit will be identified as lead contacts.

### South East Region Professionals Group for Long Term Ventilation and Complex Needs 2007

• Membership listed in appendix A

### 6. Frequency

• The first meeting will take place in April 2006 and will repeat 4 monthly thereafter

### 7. Approval

- These Terms of Reference shall be approved by the main meeting of the PICU consortium
- The Consortium will review the terms on an annual basis

### South East Region Professionals Group for Long Term Ventilation and Complex Needs 2007

Appendix A Regional South Region Professionals Group Chair: Andrea Ferns Deputy Chair: to be decided Secretary: to be decided

### Invited members: Pan Thames Professionals Group Leads

Carol Kennelly	Jonathan Perks	Rebecca Tarvit
Colin Way	Alan Monaghan	Anna Hazlehurst
Gillian Halley	Sue French	Paulette Blake
Ruth Wakeman	Pamela Mitcham	Nicky Nichols
Lorraine Arnavout	Eunis Hughes	Katherine Benjamin
Susan Tester	Gemma Planner	Rachel Cooke
Louise Bell	Joan Myers	Debbie Lynn
Naimh Nyoni	Joyce Inoniyegha	Trudy Ward
Alison Franklin	Kay Larkin	Katie Randall
Kathy Brennan	Jeanette Barns	Julia Milton
Neil Williams	Mary Hessernan	Francis O'Sullivan
Colette Datt	Michelle Sappa	Mairead McArthur
Joy Hayes	Karen Wallace	

Maria Tanner Katie Lewis Renay Slater

Please note: any lead professionals involved in discharge planning are invited to be members of the Group

# APPENDIX K1: PBR SEMINAR 14<sup>TH</sup> JUNE 2007: HIGH DEPENDENCY CARE (HDU) WORKSHOP SUMMARY: PBR DEFINITIONS OF CARE- PAST AND PRESENT

Framework Definitions	HRG Band	PBR Definitions			
	1	HDU Level 1 = including close monitoring, oxygen by mask, no invasive ventilation			
	→ 2	HDU Level 2 = including CPAP and BIPAP by mask with IV drugs			
PIC Level 2	→ 3	<b>PIC Level 1</b> = non complicated ventilation with inotropes / single system failure			
PIC Level 3	→ 4	<b>PIC Level 2</b> = unstable invasive ventilation with more than one system failure			
	→ 5	<b>PIC Level 3</b> = unstable invasive ventilation with multi system failure			
PIC Level 4	→ 6	<b>PIC Level 4</b> = unstable multi system failure with other complications			
	→7	PIC Level 5 = (ECMO), VAD & other highly complex proceedures			

### APPENDIX K2: GOSHMAN (PANDA) PAEDIATRIC ACUITY AND NURSING DEPENDENCY ASSESSMENT TOOL.

### Author: Sue Chapman

### The GOSHman PANDA Tool:

The PANDA tool assists in identifying appropriate nurse staffing levels for childrens wards and departments based on assessment of the acuity and nursing dependency of each child (Ellis and Chapman 2006).

PANDA is based on 50 'care categories' derived from the DoH 2001 report on High dependency care in children and the RCN guidance on paediatric nurse staffing levels. By identifying which 'care categories' apply to each child, PANDA identifies the appropriate 'nursing dependency' category from the 4 standard categories. The Patient Acuity/ Nursing dependency categories are:

Patient acuity	Nurse: Patient ratio
Ward Intensive Care (WIC)	1:1
High Dependency (HD)	1:2
Normal Dependency under 2 yrs of age (ND< 2)	1:3
Normal Dependency over 2 yrs of age (ND>2)	1:4

Results are able to be presented with differing levels of 'uplift' to reflect local allowances for annual leave, study leave and other abscence. PANDA has been used extensively in both the secondary and tertiary care setting across England and Scotland with positive feedback on ease of use and appropriateness of results.

### **References:**

Department of Health (2001). **High Dependency care for children – report of an expert advisory group.** DoH, London.

Ellis J and Chapman S (2006). Nurse Staffing Levels. Nursing Management 13:4:30-33.

Royal College of Nursing (2003). Defining staffing levels for children's and young people's services. RCN, London.

### Guidance for completing the GOSHman PANDA form:

- 1. It is the responsibility of the nurse-in-charge of each shift to ensure that the data collection form is completed. They can, however, delegate all or part of the process to other members of the team (i.e. enlist the help of your ward administrator to enter the patient hospital number, or ask individual nurses to assess their patients against the care categories).
- 2. The assessment will take place towards the end of the shift to assess each patient's dependency for your shift. All children who have been seen and treated on your ward should be entered onto the form, including children having a 'ward review' and 'ward attenders'.

- **3.** The form is 2-sided and both sides can be completed with different shifts either on the same day or different days, as both sides are processed independantly. If you have more children in your ward than you can fit on a single side of PANDA, either start a new sheet or use the reverse side.
- 4. Using the GOSHman PANDA classification and guidance sheet to guide you on filling in the form, using the colour-coding and numbering to help. Remember that some children will have more 'general' issues (such as needing repeated IV electrolyte supplements – category 34 or complex emotional support – category 43) so you will need to be familiar with all the categories to make sure you don't miss any!
- **5.** If a patient fits any of the categories, fill in the relevant circle in the appropriate column along from the child's ID number. Fill in the circles for ALL the categories that apply to that patient for that shift.
- 6. If you make a mistake (ie fill in a circle when you did not mean to), draw a cross over the mistaken entry (see poster for examples).
- 7. If the child does not fit any of the criteria, fill in the circle within the red column at the end of the page in order that we know that the child has been fully assessed (see poster for examples).
- 8. If the child has been admitted and/or discharged within your shift, write the time of admission and/or discharge in the Time IN and Time OUT column using the 24-hour clock (see poster for examples). This will allows us to adjust the nursing dependency accordingly.
- **9.** When the form has been completed, place it in the PANDA file. Your project lead will then collect the form and forward it to be processed.

If you have any questions, please contact **Dorina Uwase** on 020 7405 2900 Ext 5019 or <u>mailto:UwaseD@gosh.nhs.uk</u>

### APPENDIX L PAYMENT BY RESULT ROADMAP DAY PROGRAMME

### The PbR Roadmap

Date:	Thursday 14 <sup>th</sup> June 2007							
Venue:	ie: ASIA House, New Cavendish Street, London, W1G 7LP,							
Times:	Registration: 9:30 St	art: 10:00 Close: 16:15						
9:30	Registration and refreshments							
10:00	Welcome and introduction The PbR Roadmap: A hitch-hikers guide - key concepts, principles and project management tools	Stuart Rowe, Lead Commissioner, Pan Tham PICU Consortium	ıes					
	HRG Development							
10:20	PICU HealthCare Resource Groups	Kevin Morris						
10.40	HDU Subset	Kay Rushforth						
11.00	Collecting PbR Data Where do we stand now? Systems and processes for PbR	Krish Thiru, Ramnarayan, Padmanabhan						
11.20	Break							
11.40								
12.00	SNOMED CT (Clinical Terms)	Karen Hillier-Smith NHS, Connecting For Health						
12.20	Q & A Panel Session	Stuart Rowe, Roger Parslow, Kevin Morris, Ra and Krish, Kay Rushforth, Karen Hillier-Smith	am					
12:40	Workshop Sessions National Regional or Local decision making?	<ul> <li>LTV</li> <li>HDU</li> <li>PICU</li> <li>Retrieval/Outreach</li> <li>Designation Process</li> </ul>						
13.30	Lunch							
14.30	A Commissioners Perspective	Liza Marriott						
14.50	The Accreditation Process	Jane Ratcliffe & Charles Stack						
15.20	Workshop Feedback	Workshop Leads						
15.40	Q & A Panel Session	Panel						
		Stuart Rowe						
16:10	Closing remarks							
16:15	Conference close							

### APPENDIX M PBR SEMINAR 14<sup>TH</sup> JUNE 2007: LONG TERM VENTILATION (LTV) WORKSHOP SUMMARY

Author: Andrea Ferns (Pan Thames) Children's Long Term Ventilation Co-ordinator

### **Information Services**

Within the South East Region, children requiring Long Term Ventilation Support are reported to the PICU consortium. A responsible commissioner for continuing care will then be informed in order to agree in principle to funding. The group were unclear of Information Services in other areas.

### **Data Collection**

Due to data protection there remain challenges to data collection and sharing information. The number of children requiring Long Term Ventilation within the UK is unknown. The UK Long Term Ventilation Working Party is developing a census to identify the number of children.

### **Payment By Results**

Due to the complexity of children on Long Term Ventilation, discussion surrounding the appropriateness of PbR was raised. It was felt that it would not be possible to implement PbR to children with LTV.

### Commissioning

There appear to be delays in the discharge process due to the different timeframes commissioners use to decide on funding. There is also a postcode lottery when hours of care are agreed and funding agreed in principle. Discussions surrounding a National Assessment Tool involved discussing the Leeds Assessment Tool that the UK Long Term Ventilation Party is reviewing. The Department of Health are currently carrying out a pilot of 13 areas, utilising a new assessment tool. The group are unclear when this new DoH tool will be available. The group discussed developing a Specialist Commissioner for children on LTV, as this would allow continuity and equity of care. Discussions surrounding transition from child services to adult services also highlighted issues with regards to level of funding and support offered to children/adults with complex needs. To ensure that high quality care is provided to children with complex needs, it is essential that a National Assessment Framework can be developed.

### Accreditation

Finding the appropriate carers/nurses to look after children with complex needs can be challenging. Recruitment and training are time consuming and remain key factors in delays for children being discharged home. Every nurse/carer requires competency training to ensure that Clinical Governance and Risk Assessment have been addressed. Currently, there are a number of carers/nurses working in the acute/community setting with a variety of skills. In order to ensure that best practice is maintained, it is essential that funding is provided to the acute/community sectors to allocate additional resources for rigorous training and assessment of carers/nurses. Discussions surrounding accreditation of care providers/nursing agencies, that meet approved standards to support children on LTV,

were highlighted and the group agreed an accreditation process was essential. By ensuring that the acute sector and community sector can work together, an accreditation programme could be developed to ensure that only care providers/nursing agencies that are accredited would be commissioned by the PCTs.

### APPENDIX N: PBR SEMINAR 14<sup>TH</sup> JUNE 2007: HIGH DEPENDENCY CARE (HDU) WORKSHOP SUMMARY

Authors: Kay Rushforth and Michael Milner

### Information systems

Need a simple national measurement tool that accurately collects information on high dependency patients in whatever setting they may be cared for e.g. DGH ward, HDU, PICU. e.g. Kay Rushforth's HD measurement tool.

The MDS developed for PIC needs further qualification on high dependency patients as it may pick up children cared for in a HD setting not requiring that level of care.

Need to ensure that we collect information on high dependency patients, not children who are highly dependent e.g. requiring lots of social support, position changes etc

### Data collection

A huge problem. There are currently no systems in place to collect information outside of the PICU areas. Therefore a DGH caring for a HD child does not currently have any data collection system to monitor the activity of HD and link this to the PbR process.

### PbR/ HRG

For HD we may need to start with a local currency and local price as there is such disparity of services providing HD and few established HD units nationally. If we start by developing

HD care is currently provided in DGH settings on paediatric ward areas, in HD ward areas, on specialist ward areas and in PICUs a national tariff we may never have the opportunity to develop local units for HDU

### Commissioning

If areas taking HD patients are not defined as designated areas by local commissioners, there is a potential that HD patients may be transferred inappropriately to PICU / tertiary centres. Commissioning of HD needs to be linked to the coordinating lead PCT and specialist commissioning teams.

### Accreditation

Need to establish a national bench mark for accreditation of HD care. Also should all areas that care for HD children be designated, as if they are not designated will they refuse to provide HD care

### Audit and future developments

PICU is sorted; there now needs to be a steering group established to examine PbR for HD care of children in HDUs, specialist units and children's ward areas, by the Department of Health.

There needs to be a common agreement on the measurement of HD care and use of a tool which is simple and easy to use but accurate in its measurement.
# APPENDIX O: PBR SEMINAR 14<sup>TH</sup> JUNE 2007: RETRIEVAL SERVICES WORKSHOP SUMMARY

Author: Madeleine Wang

#### **Retrieval services in London**

- Very sick children should be taken to the PICU most appropriate for their clinical needs.
- A retrieval service should be designed around a service fit for the purpose of caring for a child's (sub-speciality) needs.
- Retrieval services that are independent of NHS trust management should not have conflicting interests in provision of child-centred care.
- Although PbR should ensure more objective commissioning, affiliated services are likely to be governed by other interests
- Child/family-centred services should take account of the need for purposeful 'step down' closer to home High Dependency Care
- Outreach to primary/community care should ensure continuity of care and carers.
- It is much too simplistic to measure these services in terms of miles covered with two staff in the back of the vehicle.

Data from ambulance services shows a substantial fixed cost, predictable over years. Fuel, staff time and vehicle depreciation must be taken into account but this is not significant relative to number and type of jobs done. What will count is staff mix (consultant or SpR and one, two or three staff) and dedicated vehicle use. Dedicated 24/7 (CATS) staff have advantages over other retrieval team approaches elsewhere in the country. It does not utilise two cabin crew (mandatory for ambulance services), leaving a seat available for a parent or additional staff member. Staff members vary from place to place and, from one retrieval to another, vary in status and profession

#### Information systems

- If commissioners require more consistent, more sensitive data, they must be prepared to fund this.
- For truly comparative data, it does not make sense to receive information from different systems, all of which must be quality assured. E.g. how is the PAS system quality assured? Is there any audit of the data input?
- PICANet data may not be sensitive enough but may be quality assured in a more robust way. Perhaps commissioners should consider investing (£) in this.

- Serious consideration must be given to the gaps in information; HD Care, transitional care, LTV community care. How is it possible to quantify need and cost without this information?
- Cost sensitivities need to account for the difference between DGH HDU care and tertiary HDU care. All hospitals with paediatric and A&E services have poorly children who require high dependency care.

A large percentage of acute services are emergency care and urgent paediatric admissions. Nowadays, all children admitted to a hospital ward in an emergency would score several points on Kay's proforma. Are they all to be classified as HDU patients? Do they all require HDU care? How will Commissioners decide? What is the difference between normal good quality nursing care for an acutely sick child and a child who has some high dependency needs?

There appears to be something wrong with a service that has very few HDU **beds** per 100,000 population but very high HDU **care.** Change the goalposts and it becomes easier or more difficult to score the goals! The essential feature is care and treatment appropriate to the child's needs.

#### Appropriate child-centred care

There appears to be a gap in the care needs for these children. They may not be so sick that they require special care but sick enough to require close observation, appropriate intervention and treatment; get it wrong and they deteriorate quickly and with dire consequences. But there appears to be a dearth of nurses with the knowledge and experience required to give 'total patient care'. Some commissioners appear to want the cheapest option, not the most cost and quality effective option.

There are increasing numbers of HCAs that are trained in particular competencies as *required.* Contrast this with the number of nurses qualifying each year that cannot find jobs. (They are behind shop counters, in nursing homes on the minimum wage or unemployed!) Is this cost and quality effective? I doubt it. Does this provide child-centred care and continuity of care? No and no.

I experienced all this as a parent only a few weeks ago. Following almost four hours in theatre and recovery we met on the ward four different members of staff within a period of two hours 'doing' different procedures; none of these staff was a registered nurse but we assume that all were trained in their own narrow field of expertise. This type of fragmented care is ripe for systems failures and critical incidents.

NCEPOD reports show that ward staff taking patient observations do not act on them appropriately. In adults, this results in patients being admitted to ICU. When observations are acted upon there is less chance of a patient's health deteriorating; thus admissions to ICU can be avoided.

### LTV

During and following the group session today, I witnessed some sad and risk-laden stories about children receiving inappropriate and poor care from carers who were not competent. Some had not received an appropriate type and depth of training, because the training needs were not adequately assessed or the appropriate level of training was not part of the terms and conditions of contract. Some contracts stipulate the same level of care for all LVT patients. How can this be, when these children have unique clinical/ healthcare and social needs, often dictated by what support and capabilities are available within the immediate family?

# APPENDIX P: PBR SEMINAR 14<sup>TH</sup> JUNE 2007: PICU DESIGNATION PROCESS WORKSHOP SUMMARY

Author: Ruth Ashmore, Senior Commissioner (Acute), EoESCG. June 2007

Designation is not an end in itself but just the first step in providing the full range of commissioned services to children and families and should be seen as part of the overall commissioning of any services in terms of performance management.

#### 1. Why?

- Recommendation 17 of Sir David Carter's Review of Commissioning Arrangements for Specialised Services (DH, May 2006) states that Specialised Commissioning Groups should in future formally designate specific providers to provide specific specialised services.
- Designation should be based on a nationally agreed set of patient-centred, clinical, service, quality and financial criteria and be reassessed every five years.
- Activity at undesignated providers should not be funded by commissioners.

The goal for funding specialised services is clear; arrangements should be put in place to:

- Provide a stable funding environment base for specialised services, rewarding innovation and excellence.
- Ensure services are sustainable
- Fairly reward the provision of specialised services, irrespective of the setting in which they are provided
- Be consistent with the designation
- Incentivise cost effective models of service delivery.

#### 2. What?

- Agree first principles and process nationally
- Define difference between accreditation and designation
- Be clear about what is being designated PIC centres would be separate from HD centres
- Need to ensure that we maintain safety of all children
- Be aware of interdependencies
- Define critical mass required to deliver a safe and cost effective service
- Workforce required to deliver the service
- National criteria based on framework that is child and family focused
- Evidence-based
- Good data collection
- Health Needs analysis (review future needs and capacity)
- Horizon scanning around new modalities of care
- Outcomes-based (for the longer term)
- Affordable and appropriate
- Dynamic process evolution not revolution
- Risk assessment
- ? Based on Standards Framework or need to ensure this is updated
- ? Designate networks rather than single services / or MDT team
- Be clear that designation cannot be done in isolation of other services

# 3. Who?

- Each SCG
- National Criteria but local designation
- Overarching approach to ensure no population disadvantaged by single SCG decision
- Be aware of patient flows / retrieval services
- In partnership with clinicians
- Work with National co-ordinating group
- PPI / OSCs
- PCTs
- Broader health community around children's services
- Peer Review that supports designation process
- Service review

### 4. When?

- We are clear about the key principles
- Build a clear specification for the service which can be used nationally
- Be clear that there would be a separate process for primary PIC centres and that HD care would follow on from this
- Be clear that some of the Framework standards are aspirational and need review as now 10 years old
- Timeframe for implementation after designation may be over a period of time to allow and recognise the impact of de- designation to current procurement
- Understand the impact of the new PCCMDS data collection and amount of activity being provided within DGHs
- Only implement PbR when we are clear about the consistency of the data collection
- Ensure that PbR adequately differentiates emergency/HDU care provided at DGHs and more complex care at PICs



### EAST OF ENGLAND SPECIALISED COMMISSIONING GROUP

SPECIALISED COMMISSIONING TEAM

# APPENDIX Q PAN THAMES PRESENTATIONS/ ABSTRACTS

### Presentations

Meeting/Conference	Venue	Date	Presentation Title	PICANet Team Attendees
PICANet AGM	London	24/06/2004	Presentation of National report	PICANet Team
PICS SG	Cambridge University	09/09/2004	PICANet: How can it be used for research and audit?	Nicky Davey, Sam Jones, Roger Parslow & Krish Thiru
Pan Thames Report Update: Commissioning Consortium	London	06/05/2005	PICANet: Update on Pan Thames data quality for commissioning	Krish Thiru & Sam Jones
PICANet AGM	London	24/05/2005	Presentation of National report	PICANet Team
PICANet AGM	Perinatal Institute, Birmingham	29/06/2006	Presentation of the National Report	PICANet Team
Pan Thames Commissioners Meeting	London	28/07/2006	Pan Thames PICANet Report 2004-2005	Krish Thiru, Tricia McKinney
Paediatric Intensive Care Society Scientific Meeting	Glasgow	16 & 17/11/06	PICU Health Informatics	K Thiru, P Ramnarayan, S Rowe on behalf of the pan Thames Health Informatics Group
Paediatric Intensive Care Society Study Group	Cambridge	21 & 22/03/07	PICU Health Informatics: Clinical Information Systems	K Thiru, P Ramnarayan, S Rowe on behalf of the pan Thames Health Informatics Group

### Abstracts

Abstract	Title	Authors
European Society for Paediatric and Neonatal Intensive Care (ESPNIC) annual conference, 15-17 September 2005, Antwerp (oral presentation)	Mortality, deprivation and ethnicity of critically ill children in England and Wales: preliminary findings from the Paediatric Intensive Care Audit Network (PICANet)	Parslow RC, Tasker RC, Chater T, Davey N, Draper ES, Jones S, Parry GJ, Thiru K & McKinney PA.
Developmental Medicine and Child Neurology (2005) <b>47</b> (Suppl 101) 4	Design of randomized controlled trials of the management of raised intracranial pressure in paediatric traumatic brain injury	Forsyth RJ, Morris K, Parslow RC, Hawley C & Tasker RC

Abstract	Title	Authors
5 <sup>th</sup> World Congress on Pediatric Critical	Collecting national data for clinical audit:	Parslow RC, McKinney PA,
Care, 24-28 June 2007, Geneva,	The Paediatric Intensive Care Audit	Draper ES, Thiru K
Switzerland (poster presentation)	Network in Great Britain	
5 <sup>th</sup> World Congress on Pediatric Critical	Clinical information system utilisation in	Ramnarayan P, Thiru K, Rowe S
Care, 24-28 June 2007, Geneva,	paediatric intensive care: A UK perspective	on behalf of pan Thames Health
Switzerland (poster presentation)		Informatics Group
The 15th Annual Public Health Forum,	Using Data to Inform Commissioning of	Sidhu S, Rowe S & Thiru K
Edinburgh International Conference	Paediatric Intensive Care	
Centre, 28-29 March 2007, Edinburgh,		
UK (poster presentation)		

# APPENDIX R GLOSSARY

The following abbreviations / terms are used within the text of this report:

A&E	Accident and Emergency Department
AIC	Adult Intensive Care
AICU	Adult Intensive Care Unit
ANZPICS	Australian and New Zealand Paediatric Intensive Care Registry
CAG	Clinical Advisory Group
CATS	Children's Acute Transfer Service
СТЗ	Clinical Terms 3
ECMO	Extra corporeal membrane oxygenation
ENB	English National Board
GB	Great Britain
GOSH	Great Ormond Street Hospital
НВ	Health Board
IC	Information Centre for health and soial care
ICNARC	Intensive Care National Audit & Research Centre
ICP device	Intracranial pressure device
Invasive ventilation	Any method of ventilation delivered via an endotracheal tube, laryngeal mask or tracheotomy tube
IQR	Interquartile Range
IV vasoactive therapy	Intravenous drug therapy to support blood pressure and heart rate
LVAD	Left ventricular assist device to support cardiac function
NPfIT	National Programme for Information Technology
NSPD	National Statistics Postcode Directory
NHS	National Health Service
NHSIA	National Health Service Information Authority
NHSnet	A secure wide area network connecting NHS organisations which enables units to transfer data electronically to PICANet
Non-invasive ventilation	Any method of ventilation NOT given via an endotracheal tube, laryngeal mask or tracheostomy tube
PbR	Payment by Results
PCCEWG	Paediatric Critical Care Expert Working Group
PCCMDS	Paediatric Critical Care Minimum Dataset
PCO	Primary Care Organisations
PIAG	Patient Information Advisory Group
PIC	Paediatric Intensive Care
PICANet	Paediatric Intensive Care Audit Network

PICNET	Paediatric Intensive Care Network
PICS	Paediatric Intensive Care Society
PICS SG	Paediatric Intensive Care Society Study Group
PICU	Paediatric Intensive Care Unit
PIM	Paediatric Index of Mortality
PIM 2	Paediatric Index of Mortality version 2
READ Codes	Clinical terminology used to describe clinical conditions, symptoms and observations
RSV	Respiratory syncytial virus
SCT	See SNOMED CT®
SHO	Senior House Officer
SG	Steering Group
SNOMED CT®	SNOMED CT® is a clinical terminology - the Systematised Nomenclature of Medicine. It is a common computerised language that will be used by all computers in the NHS to facilitate communications between healthcare professionals in clear and unambiguous terms
SMR	Standardised mortality ratio
SHA	Strategic Health Authority
SWACIC	South West Audit of Critically III Children
UK PICOS	United Kingdom Paediatric Intensive Care Outcome Study



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