Time to celebrate.

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Children's Acute Transport Service

Annual Report 2008-2009

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Executive summary

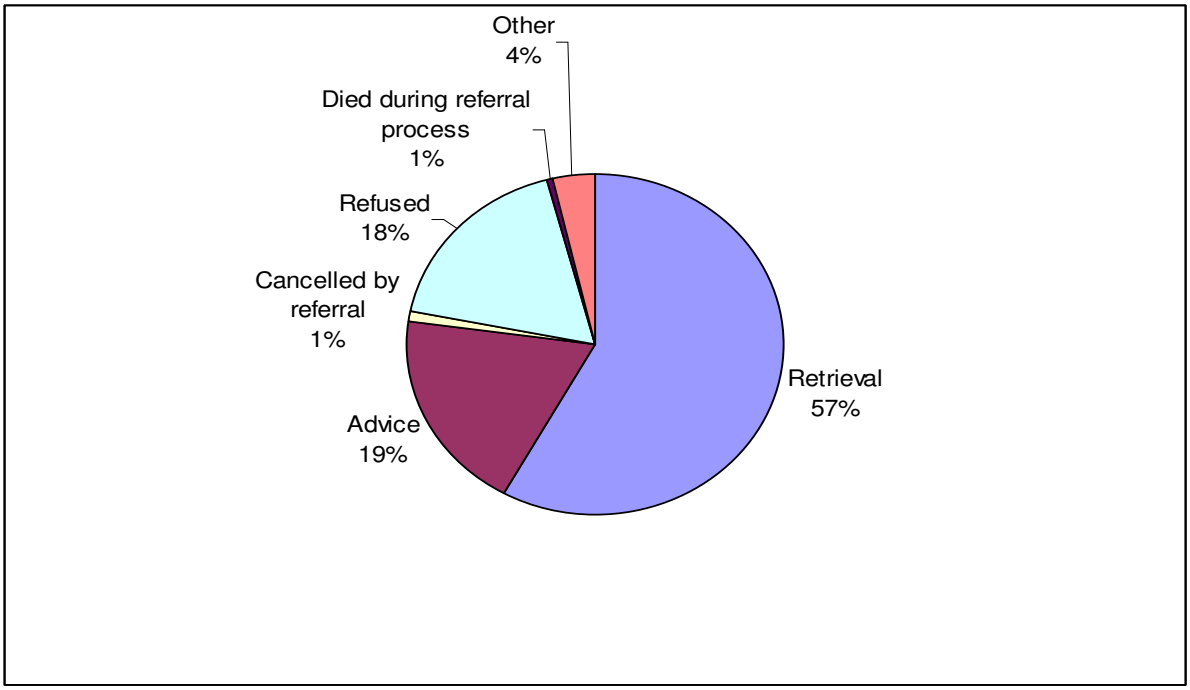
Highlights: 2008/09

- The service entered its eighth year of providing dedicated specialist paediatric intensive care retrieval services for the North Thames region.
- In 2008/09, CATS handled **2078** referral calls and performed **1103** critical care retrievals.
- Service Level Agreements (SLA) with Norfolk, Suffolk and Cambridge for retrievals, and with Great Ormond Street Hospital for ECMO retrievals were continued in 2008/2009. CATS also continue to provide a paediatric intensive care transport service with Newcastle for paediatric extra-corporeal membrane oxygenation (ECMO) retrievals, and with Great Ormond Street Hospital for retrieval of children with Vein of Galen malformations for radiological ablation.
- Agreement continues with the Thames Valley region for provision of retrieval services on a cost-per-case basis when our service is available.
- The service continues to expand nursing roles in paediatric retrieval with its ANP programme for retrieval training. There are now 2 Advanced Nurse Practitioners and 1 Nurse Practitioner in different phases of their training programme.
- Innovative use of technology continues to be implemented to provide better patient care and improved outreach education. Current projects include teleradiology, remote monitoring of patient vital signs, videoconferencing with North Middlesex Hospital and live web casts of lectures for outreach education.

Summary of annual activity: 2008/09

CATS provides a single point of contact for advice, bed finding, and a paediatric retrieval team for acutely ill children needing intensive care. The service is not currently resourced to transfer children needing only ward care or high-dependency care.

Total referrals received: 2078
Total retrievals performed: 1103
Total transfers to PICU: 1064



Destination ICUs for patients transported by CATS

Receiving Hospitals	Number
Great Ormond Street Hospital	513
St Mary's Hospital	218
Royal Brompton Hospital	100
Addenbrookes Hospital	74
Evelina Children's Hospital	37
St George's Hospital	32
King's College Hospital	24
St Andrews Burns Centre, Broomfield	9
Other out of region PICUs	21

Background

The Children's Acute Transport Service is a specialised service designed to make intensive care rapidly available to critically ill children in North Thames and East Anglia.

Most hospitals do not have a Paediatric Intensive Care Unit (PICU) - paediatric intensive care is only provided in a small number of specialist units. However, most critically ill children initially present to hospitals without a PICU. The Children's Acute Transport Service (CATS) facilitates the safe and speedy transfer of these children to a PICU.

CATS deploys a skilled paediatric intensive care team to assist in the treatment of critically ill children both before and during transfer to ICU. We offer telephone consultation, liaison with sub-specialists and skilled inter-hospital transport within one service.

Mission Statement

The Children's Acute Transport Service (CATS) has been operational since 1st November 2001. The service fulfils the recommendations outlined by the Department of Health document: Paediatric Intensive Care – "A Framework for the Future" (1997)[1].

The Children's Acute Transport Service aims to provide the highest quality paediatric intensive care for children and their families from the first point of contact to the final unit destination.

The service:

- Provides easy access and service coordination for referring children's units
- Facilitates improvements in transport provision for critically ill children
- Provides the flexibility to meet fluctuating demands
- Provides telephone advice and a triaging facility for all referrals
- Facilitates the delivery of the most appropriate care in the most appropriate place for any infant or child requiring Intensive Care in the North Thames and East Anglia region.

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[1] Paediatric Intensive Care "A Framework for the Future" Report from the National Coordinating Group, *Department of Health*, 1997.

The guiding principles are:

• An Independent Service

• Close collaboration with the 3 Paediatric Intensive Care provider units in North Thames and Addenbrookes PICU in Cambridge

• Rigorous audit with regular presentation and dissemination of information to all four-provider units.

• Close collaboration with the South Thames Retrieval Service (STRS), Neonatal Transport Service (ANTS) and Anglia Neonatal transport Service (ANTS)

Service Standards

The following core standards apply:

- All infants and children requiring critical care will receive the appropriate treatment, in the right place, at the right time
- CATS will undertake to find an appropriate paediatric intensive care bed within North Thames/East Anglia (or appropriate alternative) for those deemed to require intensive care.
- Any child within North Thames requiring PIC can usually expect the retrieval team to be mobilised within 20 minutes from decision to retrieve.
- Any child within East Anglia requiring PIC depending on transport mode can usually expect the retrieval team to be mobilised within 1 hour from decision to retrieve.
- Early expert clinical advice and management by Consultants trained in Intensive Care is available to referring hospitals at all times.
- The clinical team comprises of an SpR (year 3/4 training with at least one year's experience in intensive care) or ANP and a paediatric nurse with the relevant experience in PICU with the appropriate ITU qualification.
- Education and training of the CATS staff is a fundamental part of the service.
- Outreach education for referring units is provided.
- When the teams are on retrieval, it will be necessary to prioritise referrals according to clinical need.

Team profile

The core team directly employed by CATS consists of:

- 4.5 WTE Consultants
- 3 WTE Senior Nurses (2 Advanced Nurse Practitioners and 1 Retrieval co-ordinator)
- 10 WTE year 2-3 SpRs (as part of training rotation)
- 1 WTE Band 7 Nurse practitioner
- 3 WTE Band 6 Clinical Nurse specialists
- 6 WTE CATS funded nursing posts (Nurse Rotations from the 3 North Thames PICUs)
- 7 funded A&C staff administrators

Appropriately qualified and experienced paediatric nurses that meet the minimum training requirements (ENB 415 or equivalent) will be rotated into CATS. In agreement with the Senior Nurses from the above units, the numbers rotating onto the service will be limited per WTE, to ensure that their retrieval skills/experience are maintained to the highest standard.

Senior Nurses appointed to retrieval will maintain their clinical skills by participating in retrievals. They will also maintain their own professional development as laid down by the NMC (Nursing and Midwifery Council). Consultant staff appointed to retrieval will retain sessions in their parent discipline in either Anaesthesia/Intensive care/Paediatric Accident & Emergency and will maintain their professional development in their parent speciality.

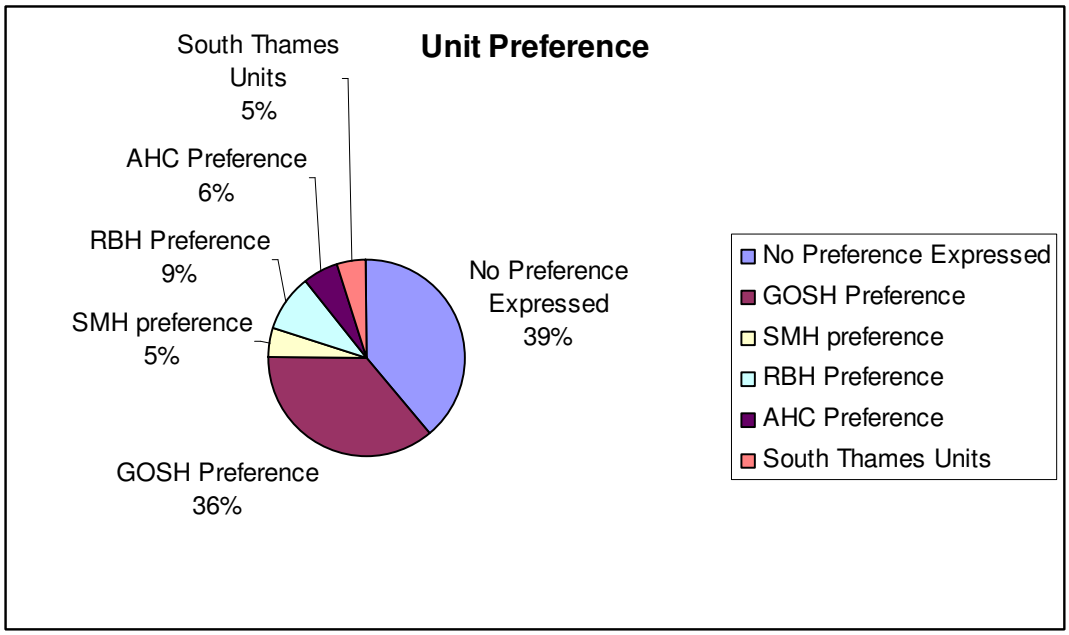
Achievements in 2008-2009

List of achievements

1. 1103 critical care retrievals in the financial year, a relatively steady state on previous years.
2. Web-based teaching programme continues (live interactive educational programme) made available to multi disciplinary teams at the DGH across North Thames
3. A number of research articles were published and CATS staff presented at various national and international conferences.
4. Bi annual audit with all provider PICUs continues
5. Audits on decision time, stabilisation time, neurosurgical emergency referrals, asthma and supraventricular tachycardia were completed and presented.
6. Audit of use of exemptions on lights and sirens versus clinical category remains an ongoing project due to the importance of maintaining a safe working environment
7. Clinical networks established, work on-going
8. Outreach education ongoing to the DGH.
9. SLA agreed for 09/10 Norfolk/Suffolk/Cambridge
10. SLA agreed for Paediatric ECMO retrieval to Newcastle on a cost per case basis
11. SLA continues with ECMO at GOSH
12. SLA with GOSH to provide transport for the 4-5 children that require interventional radiological ablation for Vein of Galen
13. A number of innovative IT developments were piloted at CATS to improve patient care and the efficiency of the service.

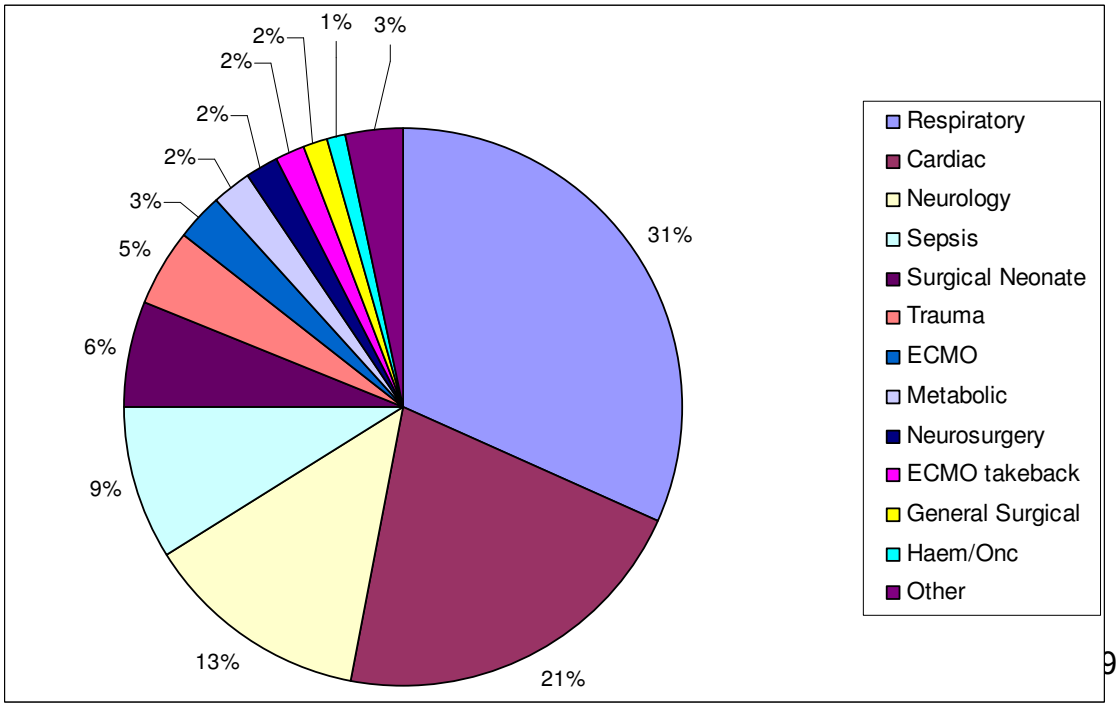
Referrals

Referrers expressed a preference for a particular unit in 61% of cases. In a significant number of referrals, no preference was expressed (39%).



Children with a number of varied conditions were referred for intensive care, reflecting the diverse case mix covered by the service.

Diagnostic categories of referrals received in 2008/09



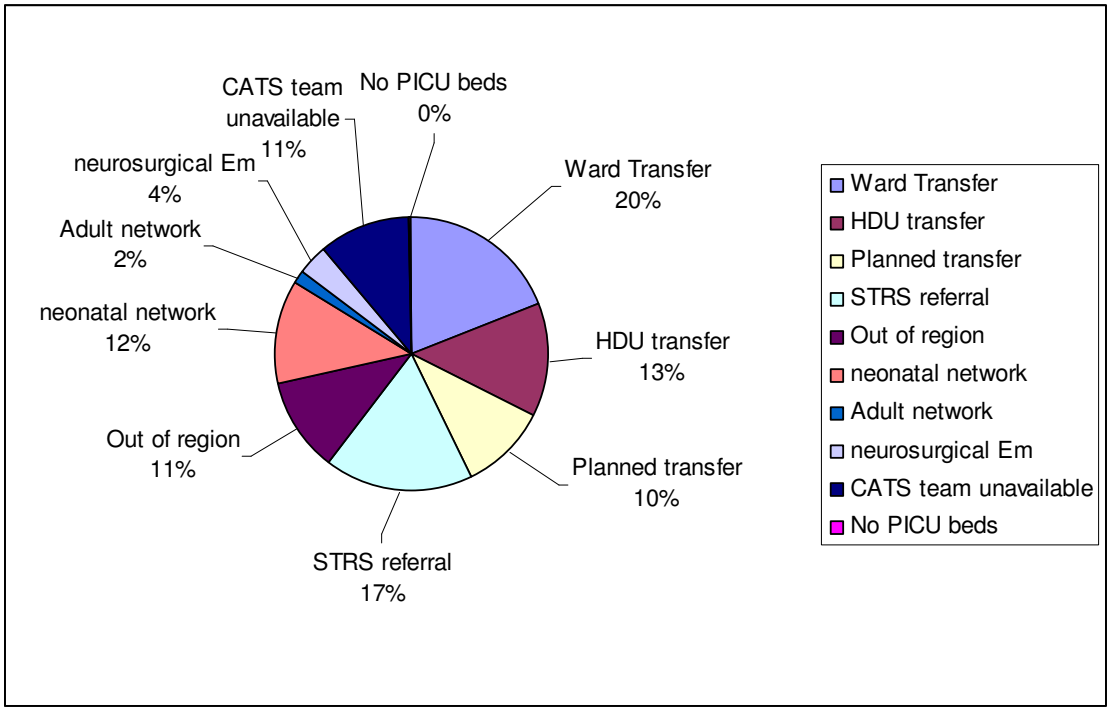
The outcome of referrals received at CATS during 2008/09 is shown below.

Outcome of referrals received (n=2078)

CATS team mobilised	1103
Resolved with advice	361
Refused	335
Cancelled by referrer	20
Death before team mobilised	11
Other	68

The reasons for refusing referrals to CATS are broken down in the following graph:

Breakdown of reasons for refusal (n=335)



Retrievals

The CATS team was mobilised on 1103 occasions. Of these 831 children were retrieved to one of the 3 provider PICUs in North Thames (1064 children transported into destination units).

The outcome of all episodes in which a retrieval team was mobilised is illustrated in the table below:

Outcome of all episodes in which the team was deployed (n=1103)

Completed transfers	1064
Patient improved and left at referring hospital	20
Patient died at referring hospital (with team)	18
Retrieval cancelled	1

The majority of patients were ventilated. A significant number needed inotropic support, and a number of children needed inhaled nitric oxide during transport.

Invasive ventilation	74%
Inotropic support	29%
Inhaled nitric oxide	5%
Median PIM mortality risk (IQR)	6.3% (2.6 - 12.6)

Destination units

Retrievals were undertaken to a number of different PICUs. Admissions and preferences for PICUs are shown for North Thames and other regional and out-of-region units.

Unit (preference)	GOSH	SMH	RBH	Addenbrookes	South Thames
No Preference (395)	187	133	10	12	39
GOSH (366)	297	32	7	8	19
SMH (49)	5	40	0	0	2
RBH (93)	4	4	83	1	1
Addenbrookes (62)	6	4	0	51	0
South Thames (42)	7	4	0	0	22

Mode of Transport

Most of the transfers were undertaken by road, using dedicated CATS ambulances (97%). A number of transfers were performed using helicopters or fixed-wing aircraft (3%).

Interaction with other teams

The CATS team continues to work in close co-operation with the other regional transport services such as the London Neonatal Transport Service (NTS), the South Thames Retrievals Service (STRS) and the Anglia Neonatal Transport Service (ANTS). During busy periods, these teams cross-cover and utilise existing PICU/NICU beds efficiently.

The team interactions and their outcome are depicted below:

Referral from	Total requests	CATS team deployed	Refused due to lack of teams*
South Thames Team	73+ 30 bed request only	28	45
London Neonatal Transport Service	45	15	30
Addenbrookes Team	49	36	8
Oxford PICU Team	9	5	4

* Remainder resolved with advice or were cancelled by referrer

Mobilisation Times

One of the service standards, and an accurate indicator of the agility of the service, is time to mobilise a team once the decision to accept the patient has been made. The CATS team aims to mobilise a team within 20 minutes of acceptance in urgent transfers. In addition, the CATS team aims to provide the same level of intensive care at the referring institution as at the receiving PICU - this often necessitates a period of stabilisation and assessment of stability for transfer.

Mobilisation and stabilisation times

Mobilisation time	Median 20 min (IQR15-50)
Stabilisation time	Median 110 min (IQR 75-149)
Total transfer time	Median 270 min (IQR 205-340)

Adverse Event reporting

CATS has a robust clinical risk management system. The clinical team records adverse events and near misses during the course of the transfer relating to ambulance, equipment, and patient-related activity.

- Adverse event reporting is encouraged to facilitate an active approach to risk reduction. Each adverse event is analysed during the daily team meeting where clinical activity from the previous 24 hours is discussed.

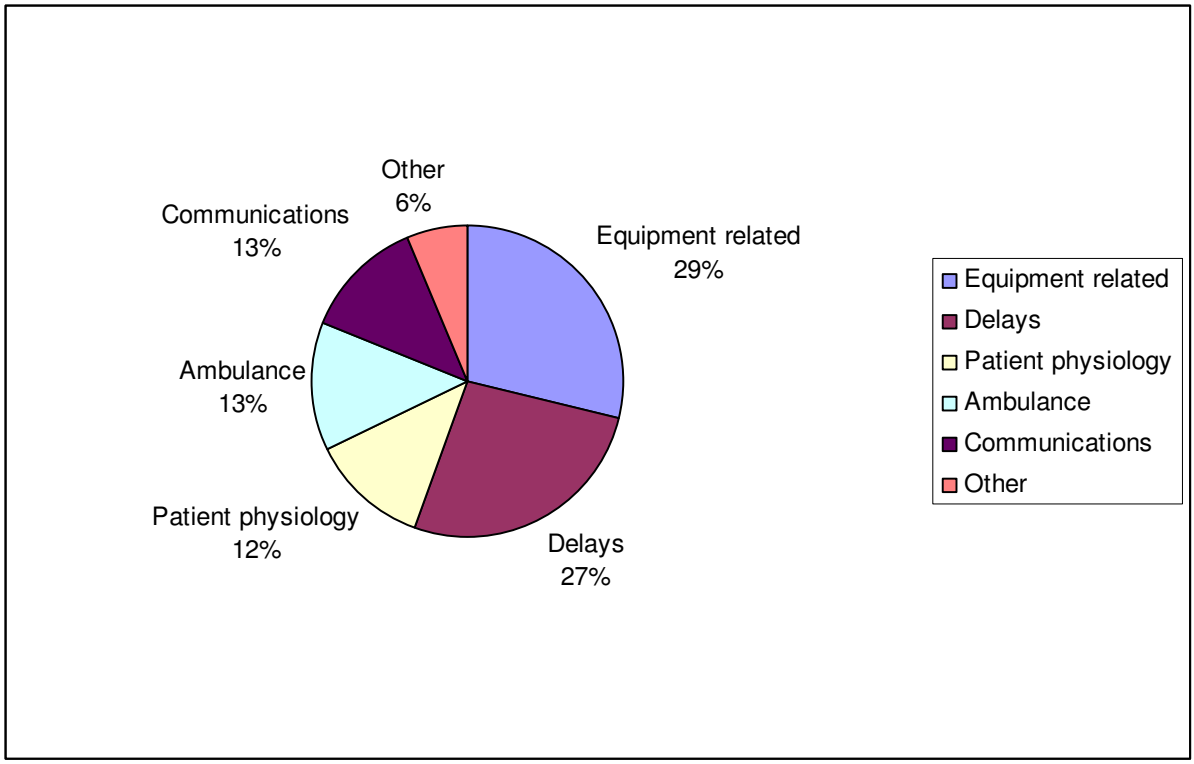
- Because of this system CATS were able to identify early on the need to review our ventilation strategy relating to the child who is spontaneously breathing whilst requiring some form of ventilation support. This allowed us to put a successful business case forward in support of a transport ventilator that allows this mode of ventilation.

- Another area that CATS addressed from a clinical risk perspective was the need to improve on the way we moved infants and children by air and by road utilising other regional ambulance services, by purchasing an “aero-sled” stretcher system. This lock on system has allowed us to improve on the way we secure the child as well as the monitoring, ventilator and equipment.

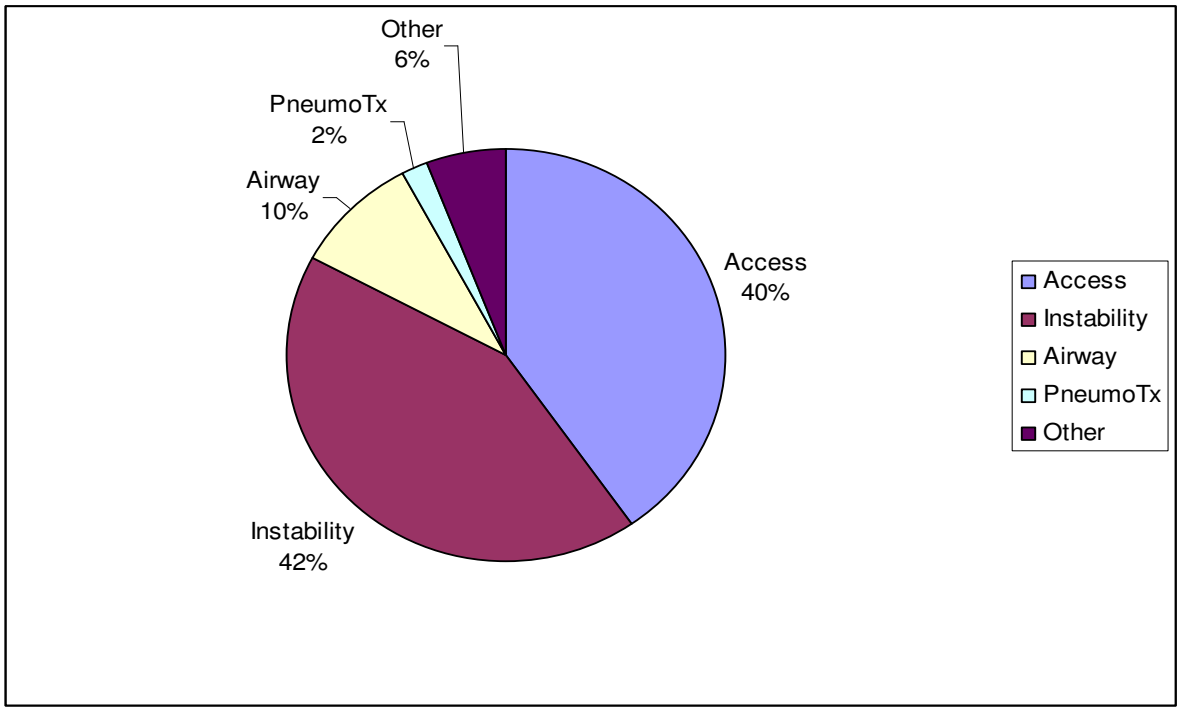
- The use of lights and sirens remains an ongoing project

The vast majority of transports did not involve any adverse events (68%). In 32% of retrievals, adverse events were documented and reported by the teams, although the majority were minor and did not compromise patient safety. Events were analysed in

three major groups **(ambulance related, equipment related, and patient related outlined in graph below).**



Safety: More detailed breakdown of Patient related events outlined in graph below



CATS Risk Action Group (RAG)

The Group's aim is to ensure consistency in the quality and access to the service across the region and continue to work in partnership across the multidisciplinary paediatric critical care teams, specialised commissioners, SJA Service and where possible with patients and their carers in planning the future of CATS.

The scope of the group is to provide a forum which promotes care to the highest standard through open dialogue, teamwork and knowledge where lessons are learned and risk is minimised and where change is continuous and rapid

- Monitor and oversee all clinical activities
- Maintain processes for assuring quality of clinical care
- Provide up to date guidelines on clinical practice and procedures
- Develop and monitor implementation of National Standards
- Monitor all research and development activities within CATS Team
- Proactively manage clinical risk assessment processes including incident reporting
- Manage complaints, critical incidents and audit
- Ensure that CATS Mortality and Morbidity meetings are held across the PICUs
- Health & Safety Standards
- Use of Information
- Education & Training Standards

All governance meetings are informed by the 3 monthly Risk Action Group meetings

- Specialty Board at GOSH
- 3 monthly clinical excellence meeting (RAG)
- 6 Monthly with the PICU provider units in order to present an audit of clinical activity and report back on critical incidents on retrieval

- Separate 6 month Morbidity & Mortality meetings (or as required) with the 4 PICUs across the region
- Monthly (3rd Friday of every month) CATS Morbidity & Mortality meetings
- Daily review of referral/retrieval activity
- Annual review of service delivery
- Outreach education packages available bi annually to the DGH which incorporates and element of discussion on difficult cases and service improvement
- Monthly teaching programme (4th Friday of every Month)
- Extraordinary meeting which can be called by any of the users/co-opted members

Transfers Out of Region (admissions to PICUs outside London)

This year's activity saw very few patient flows from the London region to other regional PICUs in comparison to last year. Last year 32 children from the London Region required placement in a PICU

There were 5 children transferred out of region in 08-09 to other PICUs with available beds.

Research and audit

CATS advocate a strong research environment as part of its clinical service. Opportunities are provided for trainees to perform studies, audits, presentations and abstracts. A number of registered audit projects are underway, and constantly re-examined to continue the audit cycle.

CATS is also a lead member for the European Critically Ill Child Transport Group.

List of audits

1. Ongoing audit of the use of exemptions during retrieval
2. Ongoing audit of adverse events occurring on transfer
3. Ongoing audit of neurosurgical emergency transfers
4. Audit of cuffed ETT tube
5. Audit of surviving sepsis guideline for severe sepsis

6. Audit of supraventricular tachycardia
7. Audit of unexplained deaths before retrieval, including myocarditis
8. Audit of ambulance child restraints

Recent Publications

1: Ramnarayan P. Measuring the performance of an inter-hospital transport service. Arch Dis Child. 2009 Jun;94(6):414-6. Epub 2009 Jan 27.

2: Ramnarayan P, Chhabra R, Maheshwari P. Metabolic acidosis, respiratory distress, and children with severe acute asthma. Pediatr Crit Care Med. 2009 Jan;10(1):142-3; author reply 143.

3: Lampariello S, Clement M, Aralihond AP, Lutman D, Montgomery MA, Petros A, Ramnarayan P. Stabilisation of critically ill children at the district general hospital prior to intensive care retrieval: a snapshot of current practice. Arch Dis Child. 2009 Aug 9. [Epub ahead of print].

4: Lutman D, Petros A. Inhaled nitric oxide in neonatal and paediatric transport. Early Hum Dev. 2008 Nov;84(11):725-9. Epub 2008 Oct 22.

5: Hutchison JS, Ward RE, Lacroix J, Hébert PC, Barnes MA, Bohn DJ, Dirks PB, Doucette S, Fergusson D, Gottesman R, Joffe AR, Kirpalani HM, Meyer PG, Morris KP, Moher D, Singh RN, Skippen PW; Hypothermia Pediatric Head Injury Trial Investigators and the Canadian Critical Care Trials Group. Hypothermia therapy after traumatic brain injury in children. N Engl J Med. 2008 Jun 5;358(23):2447-56.

6: Forsyth RJ, Parslow RC, Tasker RC, Hawley CA, Morris KP; UK Paediatric Traumatic Brain Injury Study Group; Paediatric Intensive Care Society Study Group (PICSSG). Prediction of raised intracranial pressure complicating severe traumatic brain injury in children: implications for trial design. Pediatr Crit Care Med. 2008 Jan;9(1):8-14.

7: Lutman D, Montgomery M, Ramnarayan P, Petros A. Ambulance and aeromedical accident rates during emergency retrieval in Great Britain. Emerg Med J. 2008 May;25(5):301-2.

Consultations

Eithne Polke the CATS coordinator completed a secondment to the North West Region. The report produced provided a comprehensive review of the ability of the North West Paediatric Intensive Care (PIC) retrieval teams to provide a 24hr service for inter-hospital transfer of the critically ill child. The paper and its recommendations were presented to the North West Paediatric Intensive Care Commissioning Advisory Group and have been accepted in full in October 2007.

In this financial year (08-09) the coordinator was invited back to assist with the implementation of the project for the region.

The CATS coordinator continues to assist with other regional services from an advisory capacity. West Midlands (Birmingham, Stoke PICU), Yorkshire & Humber (Leeds, Sheffield PICU) and the Republic of Ireland Health Service Executive have spent time with CATS on service cost, coordination, collaboration and delivery.

Daniel Lutman, CATS consultant is leading on the review of the Paediatric Intensive Care Society (PICS) Transport Standards; this project is expected to be completed and published by the end of 2009.

Outreach Education & Training

CATS play a pivotal role in helping referring hospitals to manage the critically ill patient and stabilise them while waiting for the transport team. This is done through regular outreach visits to facilitate case discussions as well as lectures, workshops and tutorials on specific topics such as securing the ET tube, maintaining cervical spine immobilisation etc. Consultants as well as senior nursing staff attend these sessions.

The CATS website serves as a single point of high quality information including guidelines, prescriptions for drug infusions and parent information.

Outreach Activity

Integral to the development and maintenance of the clinical network is the outreach activity performed by members of CATS. This takes a multitude of forms but revolves around the activities of the core CATS team. The CATS teams has split the region into managed clinical networks and have made themselves known to key members of staff in the hospitals that use the service. They are therefore easily accessible on an informal basis to bring up issues regarding the service, ask clinical questions and receive immediate feedback on children that have been retrieved. The outreach activity in 2007/08 is summarised in the table below.

Outreach sessions 2008/09**: 20 outreach days** organised with the DGH teams covering over 37 of the main DGH referrers to the service.

The idea of these outreach days is to allow full engagement between CATS and all those who look after seriously ill children in order to fulfill some of the recommendations made in the Tanner report (2006)[2]. The service has made a huge effort in contacting colleagues in anesthetics, adult ICU and accident and emergency, however despite this, it is not always possible to get “buy in” from all the DGH staff.

[2] DoH (2006). The acutely or critically sick or injured child in the district general hospital *A team response.*

Webcasts and e-learning

CATS is piloting the use of web conferencing software to broadcast hour-long live lectures on the Internet on the management of common emergencies. Any district general hospital with the correct credentials can log in and attend. These virtual outreach sessions are conducted in addition to the regular outreach education sessions, which aim to focus more on hands-on tutorials and simulated scenarios. Recordings of the lectures will also be available for viewing at a later date. Details on the 2008 timetable of lectures will be available on the CATS website (www.cats.nhs.uk).

The web conferencing software has also been used successfully in webcasting the monthly Core Curriculum Teaching sessions for PICU trainees run jointly by Great Ormond Street Hospital, St Mary's Hospital and the Royal Brompton Hospital. So far, 6 teaching afternoons have been webcast and attended remotely by an average of 5 trainees each. Recordings of the teaching sessions are also available for trainees.

Education & Training

University based Teaching

CATS Advanced Nurse Practitioners continue to provide a lecture series at 3 universities across the region South Bank University, City University, Thames Valley University and Anglia Ruskin University.

Training Opportunities

Staff mandatory update days. 4 sessions held over the financial year, in which all staff that work for the service must attend in order to continue to work on CATS. Part of their mandatory update consists of a supervised retrieval

Staff Induction days 4 two-day sessions attended by all new starters to CATS who then go on to work in a supervised capacity on retrieval

Ambulance Technician update days are also held twice a year

Supervised Retrievals

The retrieval team is currently composed of one PICU doctor/ANP and one retrieval nurse. On many occasions additional nursing and medical staff formed part of the retrieval team as a training requirement or to re-evaluate a member of the team.

A consultant formed part of the team on 20% of occasions. The consultant activity relates to training and education of the retrieval fellows as well as level 4 PICU patients who require flight retrieval.

There were also several retrievals in which an observer from the referring institutions such as the PICU outreach facilitators, registrars, and consultants were accommodated at the CATS base. They spent anything from a day to a week observing the whole referral/retrieval process and were given the opportunity to accompany the retrieval team on a number of retrievals. CATS also offered placements to post registration nurses who were undergoing their PICU course at GOSH/SMH.

Advanced Nurse Practitioner Programme Update

As the service evolved it has become apparent that in order to utilise the expertise of the senior nursing staff within CATS there was a need to review traditional nursing roles. This has resulted in the appointment of both an Advanced Nurse Practitioner (ANP) and Nurse Practitioner (NP) in January 2006, with a third NP appointed in August 2007.

The aim of the advanced nursing posts is to create a flexible team that can respond to the needs of the service and the referring centres through education, outreach, stabilisation and transportation of the critically ill child. In order to achieve this, the following training and education programme has been implemented:

Stage 1

The identification of a highly experienced paediatric intensive care nurse, with additional emergency transport training, who has completed (ANP), or working towards (NP) a clinical master's degree programme. This individual should be committed to advancing nursing practice.

Stage 2

Clinical Retrieval Practice:

- Supervision of nursing and medical trainees.
- Clinical history taking (referral calls) and planning.
- Offering clinical advice, support and indication for diagnostic testing.
- Reporting and discussing findings with duty consultant.
- Triaging of patients in conjunction with duty consultant.
- Clinical assessment and management during transfer of child.

Education and Training:

- Weekly anaesthetic list – skill acquisition to include advanced airway management (induction/intubation/ventilation), peripheral, central and arterial line placement.
- Monthly meeting with consultant mentor to discuss progress and identify learning needs.
- Completion of Non Medical Prescribing Course.
- Consultant led ANP education to include emergent management of the complex critically ill child.
- To lead on both outreach education and CATS multidisciplinary training programme.
- Maintain competence log and portfolio. Research/Audit:/Governance:
- Undertake research projects with view to presenting at both national and international conferences.
- Facilitate and assist in nursing and medical research.
- Involvement in compiling and presenting data at outreach morbidity and mortality meetings.
- Development and review of CATS clinical guidelines.

Stage 3

- To lead on retrieval process under the direct supervision of the duty consultant, consolidating prior knowledge, skills and education.
- Assessment of practice by self and mentor, resulting in completion of competency based logbook and portfolio.
- On going skills acquisition.

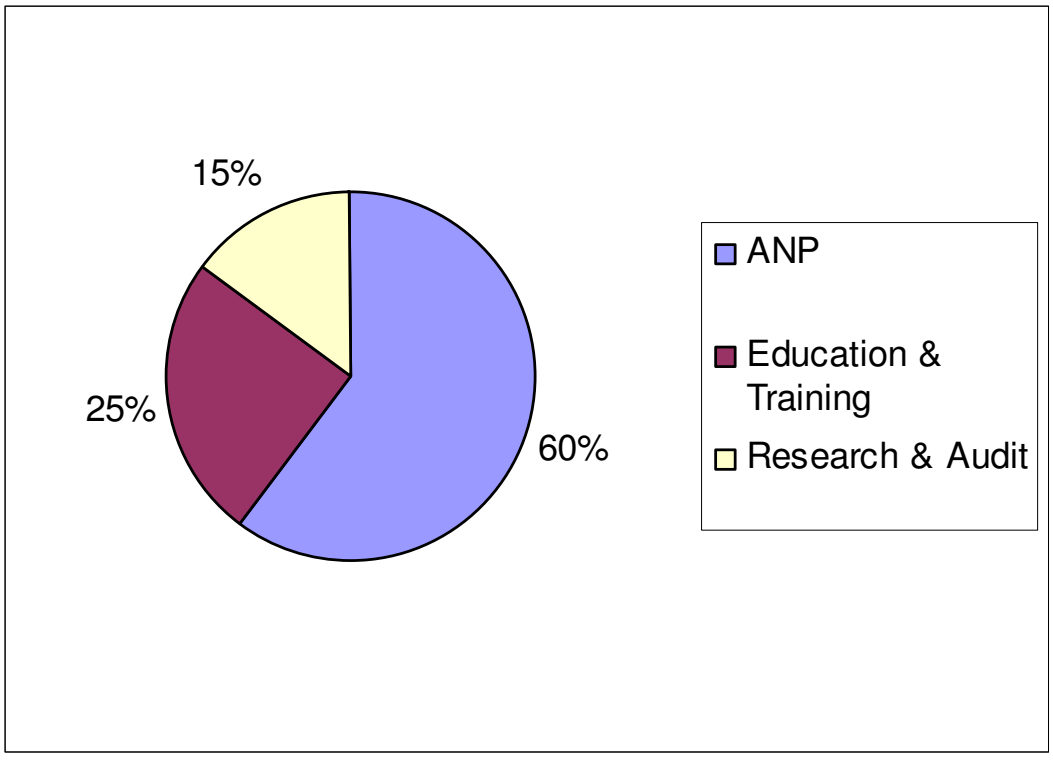
Stage 4

- Independent nurse led retrieval practitioner.
- Monthly review of practice and development by consultant mentor.

Currently 2 of the Advanced Nurse Practitioners for the Children's Acute Transport Service is performing at stage 4 and between them have participated in 192 retrievals of which 62 were ANP led.

The third Nurse Practitioner is now performing at stages 3 and will complete his training by April 2010.

The following graph shows the Advanced Nurse Practitioner Job Plan



Information technology at CATS

A number of innovative IT developments are being piloted at CATS to improve patient care and the efficiency of the service.

Radiology images transmission

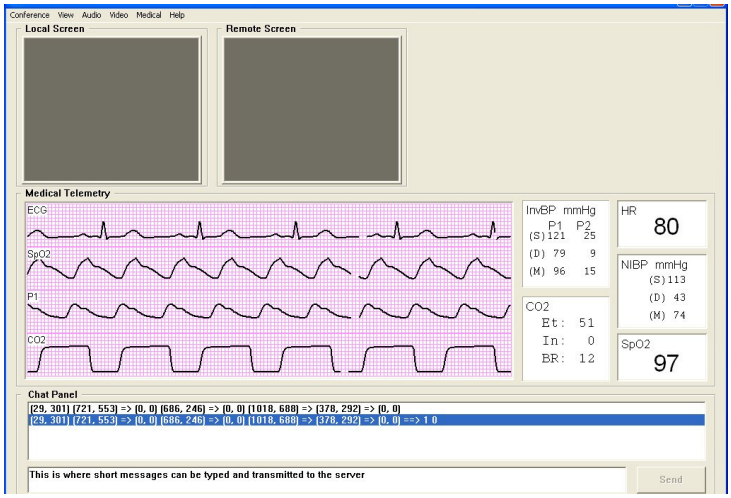
One of the most significant limiting factors in providing appropriate advice at the time of referral to CATS is the lack of access to patient radiology. In some cases, such as during neurosurgical or ECMO referrals, specialists at tertiary centres need access to radiology images immediately in order to make crucial clinical decisions. Current means of sending radiology by courier, insecure email and fixed point-to-point image links are unsafe and impractical in an emergency, and cause significant delays in decision making.

CATS has partnered with Cimar UK to develop a fully web-based system for referring hospitals to securely send diagnostic quality DICOM images to CATS and/or authorised specialists such as neurosurgeons. Only an Internet-connected computer and a CD with the images are required, and the system is specifically intended for quick use by clinicians during an emergency. The system is completely secure and satisfies all NHS information governance regulations. Detailed information and a link to the radiology transmission portal are available from the CATS website (www.cats.nhs.uk)

Videoconferencing and tele-consultation

A recent installation of IP-based videoconferencing equipment connecting CATS and North Middlesex Hospital offers the promise of tele-consultation during acute referrals.

CATS has also worked closely with WhizMed to develop a system to view the patient's vital signs monitoring information in real time from the CATS office during a retrieval. Such access offers the potential for CATS consultants to provide timely remote advice to the team in case of unanticipated clinical deterioration.



Parent Transport

There is evidence that most parents desperately want to accompany their sick child during inter-hospital transport and that separation from their child at such a critical time was a major stress factor following admission to PICU[3] [4] [5] Most parents experienced separation anxiety and some had followed the retrieval ambulance at high speed while in a state of distress. Whilst this practice is actively discouraged there is always the concern that the parents will not adhere to the services' policy.

Previously, it had been thought unfortunate but necessary that parents be excluded from travelling with their child on an intensive care transfer, as the potential risks of including them were too great.

To overcome many of the risk management issues that existed CATS built their intensive care ambulances specifically to be able to accommodate one if not both parents.

On only one occasion last year was a parent unable to travel with their critically ill child. In 2008/09, there were no adverse incidents associated with a parent travelling with the team and no parent was prevented from travelling if they wished to do so.

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[3] Colville G, Orr F, Gracey D. 'The worst journey of our lives': parents experience of specialised paediatric retrieval service. *Intensive Crit Care Nursing* 2003;**19**:22-7.

[4] Davies J, Tibby S, Murdoch IA. Should parents accompany critically ill children during inter hospital transport? *Arch Dis Child* 2005;**90**:1270-3.

[5] Tasker, R. Inter-hospital transport for children and their parents. *Arch Dis Child* 2005;**90**:1217-1218.

Work In Progress for 2009/2010

A number of projects are underway at CATS for the year 2009/10.

Salient work in progress:

- Encouraging further uptake on the outreach education programme to all referring units, especially by remote means.
- Looking at ways to improve the uptake of outreach education to the DGH
- Written protocols and guidelines for the management of all patient illness groups updated as per best practice or every 2 years.
- New website developed with all guidelines and protocols for easy access for referring children's units
- Participate in devising Pan Thames protocols
- Advanced Nurse Practitioner role development/completion of training programme
- The establishment of HDU study days for the multi disciplinary team within the DGH setting
- Continue to work collaboratively across the region as well as nationally with other transport services
- Two-way feedback system in place for referrer and receiving PICUs