Patient Safety Incident Reporting Data Trends of a Regional Neonatal Transfer Service

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♦ Background

- Adverse events occur frequently during inter-hospital transfers of children (Barry and Ralston, 1994)
- At least one adverse event occurs in 36% of neonatal transfers even when undertaken by a dedicated team (Lim *et al*, 2008)
- A previous London Neonatal Transfer Service (NTS) audit showed that in 2009-2010, 47% of our transfers had at least one adverse event.
- Work is on-going to improve the reporting and management of our service's risk including engagement of the whole team significant changes to the patient safety incident form.
- London NTS ~~have a~~ constantly drive to analyse risk and strive for improvement.

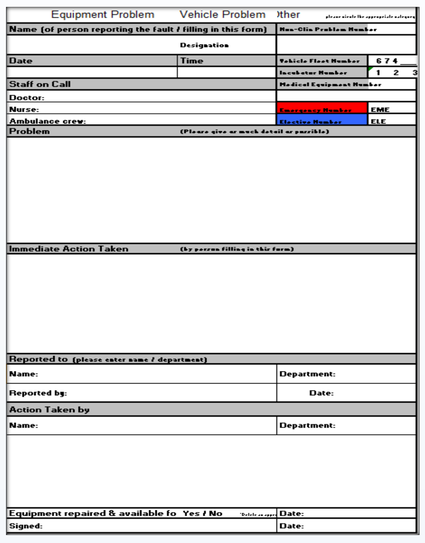
♦ Objectives

- To evaluate the risks associated with all our transfers.
- To assess if ~~we could identify~~ risks identification ~~that~~ could lead to changes locally that could ~~and~~ be incorporated into our local and outreach teaching sessions.

♦ Methods

- Patient Safety Incident (PSI) forms completed by the team at the end of each transfer, reviewed during the daily debriefing and updated as required.
- Completed forms uploaded into PSI database
- This study reviewed Patient safety Incident (PSI) forms for each transfer from 2011 to 2013
- Data was analysed using SPSS software.
- Approval was gained from the Bart's Health Clinical Effectiveness Team.

Figure 1 and 2 showing the change in the PSI form moving from free text to specific information.



Equipment Problem Vehicle Problem Other

Name (of person reporting the fault / filling in this form) | Non-Clin Problem Number

Designation

Date | Time | Vehicle Fleet Number 6 7 4 | Incubator Number 1 2 3

Staff on Call | Medical Equipment Number

Doctor:

Nurse: | Emergency Number EME

Ambulance crew: | Electric Number ELE

Problem (Please give as much detail as possible)

Immediate Action Taken (by person filling in this form)

Reported to (please enter name / department)

Name: | Department:

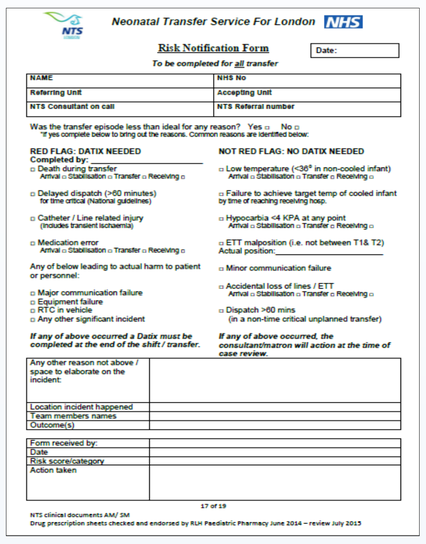
Reported by: | Date:

Action Taken by

Name: | Department:

Equipment repaired & available fo Yes / No Date:

Signed: | Date:



Neonatal Transfer Service For London NHS

Risk Notification Form

To be completed for all transfer

Date:

NAME | NHS No

Referring Unit | Accepting Unit

NTS Consultant on call | NTS Referral number

Was the transfer episode less than ideal for any reason? Yes ☐ No ☐

*If yes complete below to bring out the reasons. Common reasons are identified below:

RED FLAG: DATIX NEEDED

Completed by:

☐ Death during transfer
Arrival ☐ Stabilisation ☐ Transfer ☐ Receiving ☐

☐ Delayed dispatch (>60 minutes)
for time critical (National guidelines)

☐ Catheter / Line related injury
(includes transient ischaemia)

☐ Medication error
Arrival ☐ Stabilisation ☐ Transfer ☐ Receiving ☐

Any of below leading to actual harm to patient or personnel:

☐ Major communication failure
☐ Equipment failure
☐ RTC in vehicle
☐ Any other significant incident

If any of above occurred a Datix must be completed at the end of the shift / transfer.

NOT RED FLAG: NO DATIX NEEDED

☐ Low temperature (<36° in non-cooled infant)
Arrival ☐ Stabilisation ☐ Transfer ☐ Receiving ☐

☐ Failure to achieve target temp of cooled infant by time of reaching receiving hosp.

☐ Hypocarbia <4 KPA at any point
Arrival ☐ Stabilisation ☐ Transfer ☐ Receiving ☐

☐ ETT malposition (i.e. not between T1& T2)
Actual position:

☐ Minor communication failure

☐ Accidental loss of lines / ETT
Arrival ☐ Stabilisation ☐ Transfer ☐ Receiving ☐

☐ Dispatch >60 mins
(in a non-time critical unplanned transfer)

If any of above occurred, the consultant/matron will action at the time of case review.

Any other reason not above / space to elaborate on the incident:

Location incident happened

Team members names

Outcome(s)

Form received by:

Date

Risk score/category

Action taken

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NTS clinical documents AM/ SM
Drug prescription sheets checked and endorsed by RLH Paediatric Pharmacy June 2014 – review July 2015

♦ Results

Figure 3 showing the increase in completion rate for the form

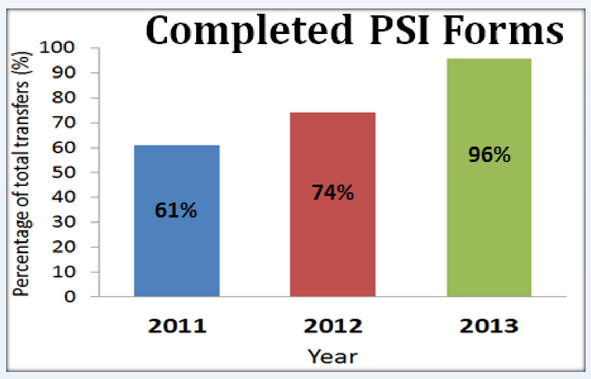

Table 1 showing the change in reporting..

Year	2012		2013		Significance
Filled Forms /Total Transfers	1027/1389		1321/1374		p<0.01
Incidents reported	471		465		
	No(%forms)	%Transfers	No(%forms)	%Transfers	Comparing 2012–13
Dispatch >60 min (Time Critical Transfers)	53(5.2)	3.8	32(2.4)	2.3	**p<0.001**
Time Delays	163(34.6)	11.7	6(1.3)	0.4	**p<0.001**
Vehicle/Equipment Problem	53(11.3)	3.8	37(8)	2.7	**p=0.003**
Medication Error	3(0.6)	0.2	9(1.9)	0.7	**p=0.19**
Hypocarbia(pCO2 <4kPa)	67(14.2)	4.8	122(26)	8.9	**p=0.017**
ET repositioned(<T1 or >T2)	50(10.6)	3.6	118(25.4)	8.6	**p<0.001**
Vascular access related	42(8.9)	3	9(1.9)	0.7	**p<0.001**
Loss of ET tube/catheter	7(1.5)	0.5	15(3.2)	1.1	**p=0.257**
Hypothermia(<36.5) (Unintentional)	121(25.7)	8.7	70(15.1)	5.1	**p<0.001**
Communication issues	32(6.8)	2.3	52(11.2)	3.8	**p=0.288**

Due to the significant improvement in form completion rate, only the 2012 to 2013 data is presented

♦ Our Interventions

- The whole team embracing transparency with a constant drive for improvement.
- Changes to the collection of data
- Local and outreach teaching programmes
- Endotracheal tube length guides
- Monitoring hypocarbia
- Feedback to referring units

♦ Conclusions

- There ~~was~~ were significant improvements in the completion rate of PSI forms, dispatch time to locally agreed time critical transfers, time delays, equipment problems, loss of lines and unintended hypothermia.
- Despite interventions we did see a significant increase in hypocarbia and the endotracheal tube requiring adjustments.
- We were pleased to see that we did not see a rise in medication errors and loss of lines.
- This work although based during transfer can be translated onto the neonatal unit.
- The whole team embracing the challenge of quality improvement brings rewards but ~~there are~~ further improvements are possible.

♦ References

1. Barry PW & Ralston C Adverse events occurring during interhospital transfer of the critically ill. Arch Dis Child 1994;71:8-11
2. Lim M & Ratnavel N. A prospective review of adverse events during interhospital transfer of neonates by a dedicated neonatal transfer service. Paediatric Critical Care, 2008;9(3):289-293

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