

A retrospective analysis of prospectively collected database of blood sugar downloads from SMART metres and near patient A1C tests.

**Strategy for change** Change was implemented through education with MDT approach. Families were supported through the process of changing metres and offered open access to MDT.

**Measurement of improvement** The effect of the planned changes were measured by patient confidence in self-management, glycaemic control, Variability of blood sugars versus A1C levels and need for hospital admissions.

Better understanding amongst the patients of their own control led to the patient empowerment in a friendlier home environment.

Mean A1C for 100 downloads was 61.67 mmol/mol (9.8 mmol/L) that was comparable to a mean blood sugar of 9.6 mmol/L with a mean standard deviation of 4.7. However this correlation changed when the data was stratified based on Standard deviation (SD).

1. SD <2: mean A1C was 45.7 mmol/mol (7.6 mmol/L) compared to average mean blood sugar 5.53 mmol/L.
2. SD 2–4: co-related to mean A1C 53.9 mmol/mol (8.7 mmol/L) to average mean blood sugar 7.9 mmol/L.
3. SD >4: mean A1C 63.4 mmol/mol (10 mmol/L) and average mean blood sugars-9.97 mmol/L were exactly same.
4. SD >6: mean A1C of 73.89 mmol/mol (11.6 mmol/L) compared to average mean blood sugar of 12.4 mmol/L.

Admissions due to DKA and hypoglycaemia decreased by half.

**Effects of changes** Better control closer to home improving patient experience and quality of life at reduced health care cost.

There was initial hesitation around new metre and tight targets which was overcome by education, close supervision and reflection.

**Lessons learnt** SMART metre download review is a good way of analysing blood sugars targets, variability and control over a period of time.

They are better predictors of glycaemic control

It has its advantages in empowering patients at the comfort of their own homes.

**Message for others** SMART metres have taken paediatric diabetes management closer to home.

Mean blood sugars are a better indicator of glycaemic control and variability when the standard deviation is between 0–4.

G557(P) ABSTRACT WITHDRAWN

G558(P) MANDATORY TEMPLATES FOR PAEDIATRIC TRANSFER LETTERS: REDUCING RISK AND IMPROVING PATIENT CARE

FM Cust, S Goldring, E Yule, S Saldien, J Patel, M Lee, Y Zhou, R Ajitsaria. *Paediatrics, Hillingdon Hospital, Uxbridge, UK*

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**Background** Deficient transfer letters are widely recognised as a significant cause of increased risk.<sup>1</sup> Following a coroner's enquiry which cited a suboptimal transfer letter as a factor in delayed medical intervention, the Hillingdon Hospital Paediatric department introduced a standardised template and a powerful quality improvement project began.

**Methods** A template was devised using APLS<sup>2</sup> and CATS<sup>3</sup> documents to identify gold standards. A retrospective audit was carried out, comparing 20 letters pre with 20 post template introduction. 29 key content points were compared. It included a range of trainee doctors filling in the forms and a range of different reasons, from PICU transfers to tertiary acute transfer for ongoing investigation. A telephone survey was then carried out to explore varying practice in 12 London Paediatric units.

**Results** Prior to introduction of template; only 12 of the 29 key information times were present over 75% of the time. With the template introduction; all 29 areas were identified over 75% of forms.

The template has resulted in significant improvement in sharing patient information across a number of areas, from patient demographics to current treatment. Examples include a 20% increase in communicating current medications which is a significant improvement ( $p < 0.05$ ), and a 50% improvement in recording current working weight. Before the use of a template, 0/20 letters sampled provided information on allergy and immunisation, whereas letters using the template were over 90% compliant in these criteria.

Phone surveys of other London Paediatric units found only one of eight has a transfer template. It was reported transfer documentation was rushed, time-pressured and rarely involved consultant input.

**Conclusion** Using a concise template significantly improves the content of paediatric transfer letters. This simple intervention should in turn improve continuity of care and patient safety. The inclusion of a 'status at transfer' prompt improves governance regarding documentation of deteriorations during transit. The pathway within which each letter is approved and signed off by an attending consultant has also greatly increased senior input into these important communication documents.

Given the standard practice amongst London Hospitals being no formal template; we propose that a standardised template could be rolled out to all London Hospitals and beyond, to improve the handover of patients between hospitals.

## REFERENCES

- 1 *Delegation and referral*. London: GMC, 2013
- 2 Samuels M, Wieteska S. *Advance paediatric life support: the practical approach*. 5th edn. Chichester: Wiley-Blackwell, 2011:261
- 3 *Children's Acute Transfer Team. Referral Form*. [http://site.cats.nhs.uk/wp-content/uploads/2012/08/Referrer\\_prompt\\_sheet.pdf](http://site.cats.nhs.uk/wp-content/uploads/2012/08/Referrer_prompt_sheet.pdf) accessed 03/12/14

G559(P) PAEDIATRIC COMMUNITY ACQUIRED PNEUMONIA - IMPROVING MANAGEMENT

R Robertson, C McDonald. *Paediatric Department, Buckinghamshire Healthcare NHS Trust, Stoke Mandeville, UK*

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**Context** This project looked at management of Paediatric Community Acquired Pneumonia (CAP) within a District General Hospital and how the Paediatric Team could improve this.

**Problem** The British Thoracic Society (BTS) produced guidance in 2011 as to the management of Community Acquired Pneumonia.

Within our hospital it was noted that there was variation in management of CAP, both in terms of its investigation and treatment.

This project aimed to improve the management of CAP using the BTS Guidance as the gold standard.

**Assessment of problem and analysis of its causes** Initial assessment involved audit of investigation and treatment of CAP.

**Investigation** The BTS suggests “Chest radiography (CXR) should not be considered a routine investigation” and that “acute phase reactants (C Reactive Protein (CRP), White blood cell count (WCC)) ... should not be tested routinely.” It also states that “Microbiological diagnosis should be attempted in children with severe pneumonia sufficient to require paediatric intensive care admission, or those with complications of CAP.” It should “not be considered routinely in those with milder disease.”

With reference to this the audit found that, like hospitals throughout the UK, we were over investigating.

In children with CAP seen between 1 November 2012–31 January 2013 we found:

59% had a blood culture (national 51%)

73% had a WCC (national 63%)

71% had a CRP (national 62%)

98% had a CXR (national 90% (in year 2011/12))

**Treatment** The BTS suggests “Antibiotics administered orally are safe and effective for children presenting with even severe CAP” provided they can tolerate oral fluids, absorb oral antibiotics and do not have evidence of septicaemia or complicated pneumonia.

Yet despite these rather strict criteria we gave IV antibiotics (IVABx) to 63% of children with CAP despite only 39% requiring IV fluids.

A key issue identified in both investigation and treatment was differences in practice between clinicians.

**Intervention** A new Guideline was written for the management of CAP within the Trust. This was in line with the BTS National Guidance with particular emphasis on investigation and antibiotic treatment.

**Strategy for change** Presentations were made to both Trainee and Consultant Paediatricians with emphasis on the audit results and the new Guideline. The evidence for when investigation is needed and when it is appropriate to give oral antibiotics was discussed.

The new Guideline was uploaded to the Trust’s intranet.

**Measurement of improvement** Management of CAP was re-audited approximately six months after the implementation of the new Guideline.

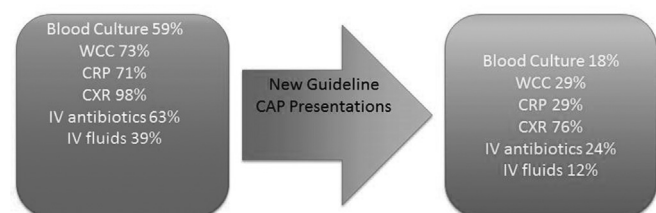
**Effects of changes** Improvements were seen across all areas.

**Investigation** In children with CAP seen in December 2013 we found:

- 18% had a Blood culture (59% in previous year)
- 29% had a WCC (73% in previous year)
- 29% had a CRP (71% in previous year)
- 76% had a CXR (98% in previous year)

**Treatment** IV Antibiotic use fell to 24% (from 63%) and IV fluid use to 12% (from 39%).

All this suggests the Trust is now managing CAP considerably closer to the BTS Guidance.



Abstract G559(P) Figure 1

Also with decreased investigation and IV treatment, the cost of CAP to the Trust should be reduced.

**Lessons learnt** This project has shown how an audit cycle can bring positive change both for improved patient care and in terms of financial savings for the Trust.

Next time it would be helpful to look more closely at quantifying these financial savings.

**Message for others** There are two key messages:

The first is that Health Professionals need to know why a change is being made. Here the combination of discussing the audit and the evidence behind the Guideline was key to changing practice.

The second is that despite national guidance being available it needs to be brought to people’s attention for a change to be effected.

### G560(P) IMPROVING THE STANDARD OF PAEDIATRIC WARD ROUNDS

E Spoor, R Balu. *Paediatrics, University Hospital of North Durham, Durham, UK*

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**Context** We identified a quality issue related to ward rounds in a 25-bed paediatric unit in a District General Hospital. Paediatric trainees, consultants and nursing team were involved in the improvement process.

**Problem** A safe and efficient service needs to ensure that there is a structured and high quality ward round (WR) including documentation of activities undertaken during WR. The core team (1 trainee, 1 Consultant and 1 nurse) observed that clinicians vary in their style for conducting ward rounds and trainees give variable emphasis on documenting these activities. We devised a list of 10 activities that needed proper documentation during WR.

**Assessment of problem and analysis of its causes** An audit was undertaken to review documentation of the post-take ward round. Same trainee looked at 46 medical records on 2 random days over a 7 week period.

Acceptable documentation was found for date, time, signature and name in 97.8%, discussion of management and discharge plans in 89.13% and recording focussed examination in 93.4% case notes.

There was inadequate record of who was present on WR at 78.2%, whether a nurse accompanied WR at 50% and whether the nursing observation chart was reviewed at 56.5%; although these charts were reviewed for nearly all patients.

There was poor documentation for recording parental concerns in 10.8%, recording investigation results in notes in 28.2%, documenting hydration status or fluid balance in 10.8%

#### Activities carried out during ward round:

Update obtained from nurse----- Y / N

PEWS observation chart reviewed---- Y / N

Drug KARDEX reviewed----- Y / N

Feed chart/ hydration assessed----- Y / N

Investigation results reviewed----- Y / N/ n.a

Abstract G560(P) Figure 1