for the rotas and the Consultant Champion for LTFT working. Together we agreed to update our department's practice in line with the most recent guidance from the RCPCH and BMA.

We wrote a guide summarising LTFT training in our department. This included a timeline of events leading to a trainee's rota being confirmed, typical average hours, nights and weekends a trainee would work based on their training percentage, and information on calculating leave.

We developed a spreadsheet to make it easier to develop slot share rotas. It is prepopulated based on the training percentage and automatically calculates the average hours and numbers of each different shift each slot share partner works. It has enabled more complex slot shares for example three LTFT trainees sharing two rota slots.

A LTFT trainee representative management role was introduced from August 2019. They contact each new LTFT trainee prior to their rotation, act as a point of contact for queries, and signpost trainees to other resources and support networks when needed.

After these changes were implemented a repeat survey was carried out to assess their impact on trainees' experiences.

Results

1. Initially, 50% of LTFT trainees were confident or very confident at calculating their total hours. After our changes this increased to 75%.
2. In 2019, 20% of LTFT trainees felt supported with their rota development. After our changes, 87.5% of trainees felt supported or very supported.
3. 75% of trainees found the LTFT guide and spreadsheet helpful or very helpful. 80% found the LTFT representative role very helpful and 20% found it helpful.

Conclusions The largest improvement was that LTFT trainees felt much better supported. There were also improvements in LTFT trainees' confidence in calculating their hours and leave.

In addition to the improvements assessed by our survey, the changes we made led to fewer rota gaps, and less 'doubling up' of two slot share partners working the same shift, which has benefitted the whole Paediatric Department.

British Association of General Paediatrics

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'3 IS THE NEW 4' – A QUALITY IMPROVEMENT PROJECT FOR 2–5 YEAR OLDS WITH WHEEZE AND EARLIER DISCHARGE. WHY WAIT 4 HOURS?

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10.1136/archdischild-2021-rcpch.39

Background The current British Thoracic Society (BTS) guideline (SIGN 158, 2019) states that children with wheeze or asthma can be discharged when stable on B-agonists every 3–4 hours (hrs). Anecdotally, standard UK practice is B-agonists every 4hrs before discharge. There is limited published evidence to support the BTS guideline (SIGN 158, 2019) which references 2 studies from 1999 (n=63) & 2003 (n=359). These have debatable relevance to current practice as these children were discharged home on nebulisers, an uncommon UK practice.

Objectives Implement a change in practice to discharge children aged 2–5 years from our paediatric assessment unit (PAU) and ward deemed well by a clinician 3hrs after their last inhaled B-agonist.

Methods Children referred via PAU and either discharged or admitted were reviewed monthly 01/12/18 – 31/01/20. Any child treated with B-agonists with a respiratory attending complaint of 'cough', 'wheeze', 'asthma' or 'upper respiratory tract infection' was included in analysis. Initial treatment is standardised to burst therapy for all (3 x 10 puffs or 5mg nebulised salbutamol x 20 minutes apart) with clinician review after this and hourly until discharge. The percentage of children discharged 3hrs after their last B-agonist was plotted on a run chart with the median calculated pre-intervention (December 2018 – March 2019). Re-presentations within 72hrs via the Emergency department (ED) or PAU were recorded. Interventions included posters in ED, PAU & ward, along with a formal data presentation (July 2019). Illness severity, oxygen requirement, medications used and direct ED discharges were not recorded.

Results There were 7279 PAU attendances over the study period with 271 included in analysis. Median age was 3yrs with an interquartile range (IQR) 3–4yrs. Discharge from PAU 3hrs post B-agonist treatment increased from baseline median 46% to 100% by December 2019. A definitive shift in practice (PAU) occurred from April 2019. Ward discharges did not show a consistent shift in practice likely due to confounding factors (low patient numbers, staff clinical practice/preference and patient acuity). Re-presentations within 72hrs were low (n=8). Discussion around discharge 3hrs post B-agonists began in early 2018 with some clinicians possibly become 'early adopters' as the pre-intervention median is above 0% (46%), suggesting a shift in practice occurred before formal intervention. No data is available before December 2018 due to record storage issues and prevents deeper analysis of when the shift occurred.

Conclusions We successfully implemented a change in practice such that the proportion of children discharged from PAU at 3hrs (rather than 4hrs) after B-agonist treatment increased over the study period to near 100%. This practice follows current national guidelines; we recommend other institutions consider adoption of this practice.

British Association of Perinatal Medicine and Neonatal Society

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MAINTAINING PRETERM ADMISSION TEMPERATURES IN AN ERA OF DEFERRED CORD CLAMPING AND DELIVERY ROOM CUDDLES: A QUALITY IMPROVEMENT PROGRAMME

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10.1136/archdischild-2021-rcpch.40

Background Admission hypothermia is an independent risk factor for death in preterm babies. During implementation of deferred cord clamping at preterm birth, we had experienced an increase in the rate of admission hypothermia. We have also implemented a policy of improving the quality of immediate care by encouraging cuddles in the delivery room, which

has the potential to further increase admission hypothermia rates.

Objectives To reduce the number of preterm babies (<32 weeks' gestation) who are hypothermic on admission to the neonatal unit, whilst promoting and practising deferred cord clamping and delivery room cuddles.

Methods We completed a 13-month quality improvement project using a series of Plan, Do, Study and Act (PDSA) cycles, from December 2019 – December 2020. Data were collected at each preterm delivery. All cases with an admission temperature < 36.5°C were identified and reviewed by a multidisciplinary team. Potential causes of hypothermia were identified and strategies to address this were implemented. These strategies included clear guidance on the use of Neohelp™ bags and TransWarmers™, providing an uninterrupted power supply for the overhead heater during transit to the neonatal unit, checking the temperature at defined times in the delivery room to guide thermoregulation interventions and covering the baby's body during vaginal breech deliveries. These strategies were promoted through 'top-tip' posters, lesson of the week announcements, social media posts and education sessions. Performance data was distributed prospectively to the staff in a regular newsletter which also included recent top tips and lessons learnt.

Results 146 preterm babies (<32 weeks') were admitted to the neonatal unit during the project. Only 2 babies (1%) were admitted with moderate hypothermia (32°C – 35.9°C) and 12 babies (8%) were admitted with mild hypothermia (36°C – 36.4°C). There were no cases of severe hypothermia (<32°C). Documentation revealed 101/134 babies (75%) had deferred cord clamping on the LifeStart™ trolley. 77 babies (57%) had a least 2 minutes of deferred cord clamping whilst 22 babies (16%) had at least 1 minute before the cord was clamped. 79% of the babies (80/146) were documented to have received delivery room cuddles.

Conclusions These PDSA cycles and implemented strategies have greatly improved our admission temperatures and almost eradicated significant hypothermia. This has been achieved whilst maintaining high rates of deferred cord clamping and delivery room cuddles, both of which are of benefit in the immediate care of the preterm baby.

British Society of Paediatric Endocrinology and Diabetes

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EFFECTIVENESS OF CONTINUOUS SUBCUTANEOUS INSULIN INFUSION WITH OR WITHOUT CONTINUOUS GLUCOSE MONITORING IN ADOLESCENTS WITH TYPE 1 DIABETES

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10.1136/archdischild-2021-rcpch.41

Background Insulin therapy is required to prevent diabetic ketoacidosis and to optimise blood glucose levels in order to to minimise vascular complications in all Children and Young People with Type 1 Diabetes (T1D).

Objectives To compare the use of Continuous Subcutaneous Insulin Infusion (CSII) with Multiple Daily Injections (MDI) Insulin therapy and to evaluate effectiveness of

using Continuous Glucose Monitoring (CGM) on glycemic control (GC). Secondary outcomes included to calculate episodes of severe hypoglycemia and DKA re-admissions and the proportion of adolescents achieving target HbA1c as per NICE (<48mmol/mol) and International Society for Paediatric and Adolescents with Diabetes (ISPAD<53mmol/mol) guidelines.

Methods Data(age,Insulin delivery, blood glucose monitoring, Diabetic ketoacidosis(DKA) and severe hypoglycemia episodes requiring admissions) collected from FileProMaker Database retrospectively for study period between June 2019-October 2020 for adolescents >12years(y) under the care of the Paediatric Diabetic Unit. Mean glycated haemoglobin (mHbA1c) in mmol/mol was calculated for each patient from every diabetes associated appointment. Analysis undertaken to compare GC in two groups according to Insulin delivery modality: CSII and MDI, further sub-grouped according to the modality used for blood glucose monitoring (GM): Continuous, Flash (FGM) and Self blood GM (SBGM).

Results

- A total of 163 adolescents >12y were included.
- In the whole cohort 40% (65) were on CSII and 60% (98) on MDI Insulin therapy.
- Overall mHbA1c in mmol/mol was 69.09.
- The mHbA1c in CSII users was 63.69 (SD 10.8) vs 74.5 (SD 18.93) in MDI users, which was statistically significant ($t=-6.2, p<0.001$).
- CGM/FGM was used by 56% (92). CGM used by 22%, FGM by 34% and SBGM by 44%.
- The lowest mHb was in patients on CSII+ CGM.
- The highest mHb was in patients on MDI+ FGM.
- There was statistically significant difference in overall mHb in those using CGM/FGM and CSII vs MDI ($p<0.007$).
- In CSII users mHb in CGM vs FGM users: 60.3 vs 66.06 ($t=-1.72, p=0.09$) and CGM vs SBGM: 60.3 vs 64.4($t=-1.22, p=0.22$), not statistically significant.
- In MDI users mHb in CGM vs FGM users: 73.2 vs 78.4 ($p=0.31$) and CGM vs SBGM: 73.2 vs 72.1($p=0.79$),not statistically significant.
- Target mHb in mmol/mol of <48 achieved by 4.3%(7), 48–53 by 6.8%(11) and 53–58 by 9.2%(15).
- Admissions with DKA episodes were 3, 66.7% (2) were on MDI and 33.3%(1) on CSII.
- Admissions with severe hypoglycaemia were 8, 75%(6) on MDI and 25%(2) on CSII.

mHb(in mmol/mol +SD) vs Insulin Delivery vs Glucose Monitoring

GM Method	CGM		FGM		SBGM	
	No.	mHb (S.D)	No.	mHb(S.D)	No.	mHb(S.D)
Insulin Delivery						
CSII (65)	20	60.3(11.3)	22	66.06 (10.29)	23	64.4(10.54)
MDI (98)	16	73.2(13.54)	34	78.4(22.65)	48	72.1(17.43)

Conclusions In our cohort of patients CSII usage led to statistically significant improved GC in adolescents with T1D.

More than half (56%) of T1D Adolescents were using either CGM/FGM.

Using CSII + CGM offered significant advantage in GC overall.