Does a new neonatal teaching programme meet paediatric trainees' needs and RCPCH curriculum requirements?

A new neonatal teaching programme in a tertiary neonatal unit was evaluated, reviewing attendance, the usefulness of the sessions via an online questionnaire and comparing it to the Royal College of Paediatrics and Child Health neonatal curriculum requirements for level 1 and level 2 trainees. As a result, some sessions have been removed or modified and other issues that could improve their educational value have been identified.

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Key points

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1. Neonatal unit teaching sessions can cover the majority of the RCPCH curriculum.
2. Trainees may not perceive multi-disciplinary team meetings as educationally valuable.
3. Trainees value regular timely feedback on sessions they lead in order to help improve their teaching skills.
4. Evaluating and modifying departmental teaching programmes is important to ensure optimal educational opportunities.

Following changes to trainee working patterns after the implementation of a new junior doctor contract, a new neonatal teaching programme was introduced for paediatric trainees (ST1-5) at Liverpool Women's Hospital (LWH, a level 3 neonatal unit) from September 2016. The teaching sessions were compulsory for those on shift and lasted for 30 minutes before the morning unit handover so that both night and day shift doctors could attend. Trainees working at LWH do not attend regional teaching, therefore the departmental programme aims to meet their Royal College of Paediatrics and Child Health (RCPCH) mandated educational requirements. The sessions and those responsible for leading them are outlined in **FIGURE 1**. In addition, all trainees received half-hour teaching sessions related to unit guidelines at induction each morning for two weeks and ST4-5 trainees were also provided with four days of interactive protected neonatal teaching (which included a cranial ultrasound course) away from the neonatal unit during their six-month attachment.

The aim of the study was to evaluate whether this teaching programme achieved coverage of the RCPCH neonatal curriculum requirements[1] of level 1 (ST1-3) and level 2 (ST4-5) trainees and to investigate the trainees' perceptions of the educational benefit of the sessions.

Methods

Two of the authors (SS and ET) kept a database of all topics covered by each teaching session during the first five months of the six-month attachment commencing September 2016. The topics covered were compared with the generic and neonatal RCPCH curricula[1] for both level 1 and 2 trainees. All paediatric trainees (n=17) completed an online survey asking for their perception of the educational value of the teaching sessions, other teaching received during the place-

Day (8:30am start)	Teaching session	Led by
Monday	Fetal medicine meeting*	Obstetric team
Tuesday	Journal club alternating with morbidity and mortality meeting	ST4-8 trainee
Wednesday	Term admissions audit meeting*	Neonatal/obstetric consultant
Thursday	Grand round (case presentation)	ST1-3 trainee
Friday	Consultant neonatal mini lecture	Neonatal consultant

FIGURE 1 An outline of neonatal teaching sessions pre-evaluation. *Multidisciplinary team meetings with obstetric and neonatal teams and a midwife present.

ment (eg on ward rounds) and what feedback they received for the teaching sessions they led. They also were asked for general comments on the teaching programme and suggestions for improvement.

Results

There were 91 teaching sessions in the period studied. Five were cancelled at short notice and for two, no information was available about their content. The ST1-2 rota allowed attendance at 79 out of 130 (61%) sessions, compared to the ST4-5 rota, which allowed attendance at 43 out of 130 (33%) sessions, plus the additional four days of protected teaching away from the unit. The only absences from morning teaching sessions occurred when trainees who held the on-call bleeps were called to an emergency, which was a rare occurrence. Based on the current rota pattern, the teaching sessions provided an equivalent amount of hours of teaching compared to regional teaching for all trainees.

The generic paediatric curriculum (shared between level 1 and 2 trainees) had 74% of total topics covered; while overall the level 1 neonatal curriculum had 63% of total topics covered, and the level 2 curriculum had 76%. **FIGURE 2** outlines the topic headings of the neonatal curriculum and the percentage of the subtopics covered; the subtopics vary slightly between level 1 and 2 curricula but the main topic headings are the same for the acute neonatal and postnatal ward and outpatient sections. The generic neonatal curriculum differs significantly between the level 1 and 2 curriculum but is too lengthy for inclusion here. Some topics were covered multiple times, with serious congenital abnormalities covered the most. Other topics, such as jaundice, were not covered at all.

There was a mismatch between trainee perception of the proportion of the curriculum covered and actual coverage, with seven trainees (41%) perceiving that less than 50% of the curriculum was covered. Trainees rated the consultant teaching session as having the highest educational value, with the term admissions, mortality and fetal medicine meetings seen as having the lowest educational value (**FIGURE 3**). Trainees reported receiving feedback on their teaching session eight out of 31 times (26%), mostly when a workplace-based assessment had been requested.

	Level 1 % covered	Level 2 % covered
Acute neonatal curriculum	**71**	**86**
Birth depression	71	67
Respiratory distress	69	90
Cyanosis not of respiratory origin	67	100
Hypotension	100	100
Intrauterine growth restriction and other nutrition problems	38	75
Fluid and blood product therapy	33	80
Neonatal seizures or abnormal neurological status including floppy baby	100	100
Serious congenital abnormalities	100	67
Sepsis	100	100
The dying baby	50	67
Postnatal ward and outpatient curriculum	**45**	**54**
Jaundice	0	0
Feeding	50	100
Infants of diabetic mothers	100	100
Minor congenital abnormalities	75	100
Disordered development	40	50
Screening	38	25
General neonatal curriculum	**75**	**88**

FIGURE 2 The main curriculum headings and percentage of total topics covered of the level 1 and level 2 curricula.

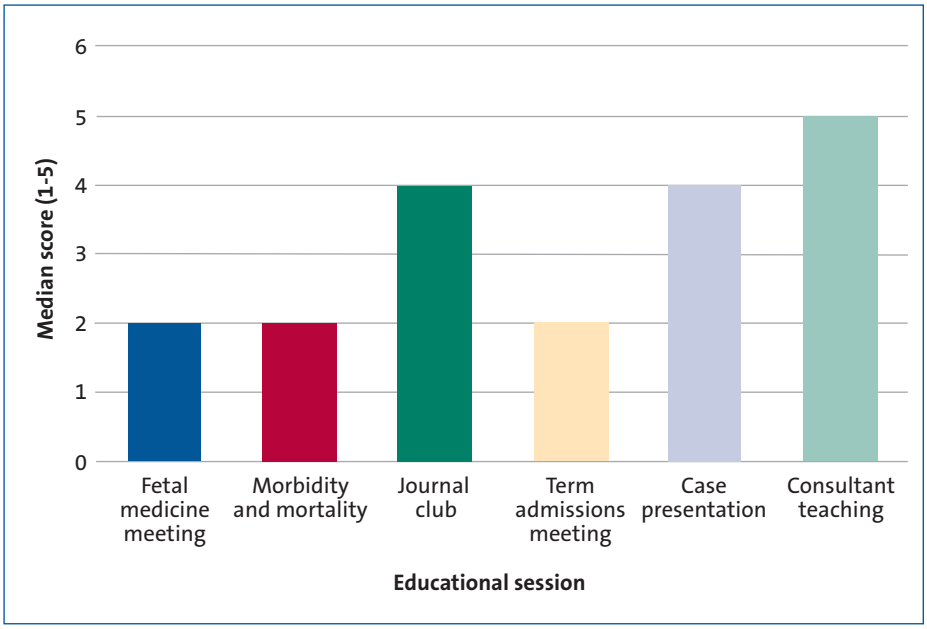

FIGURE 3 Trainee perception of the educational benefit of individual teaching sessions. The median score given by trainees on a scale of 1-5 (with 5 being excellent teaching).

Free text responses suggested a consensus that the fetal medicine and term admission multidisciplinary team (MDT) meetings were not teaching sessions and provided no educational benefit to trainees, and that case presentations could be improved by giving the trainee more time to prepare these otherwise they just read the electronic records rather than facilitating a discussion of the case. It was recognised that there were many other 'on the job' opportunities for learning, including intensive care and high dependency unit consultant-led ward rounds, morning handover sessions and procedural skills-based teaching.

Discussion and recommendations

Five months of a six-month neonatal departmental teaching programme have been evaluated and the programme has been modified in response to feedback in time for the next six months' cohort of trainees.

The discrepancy in curriculum coverage between level 1 and level 2 trainees is accounted for by the extra four days of protected teaching that the ST4-5 trainees attended. Although, overall, the teaching programme itself did not cover 100% of the RCPCH curriculum, trainees identified other learning opportunities (for example, supervised learning events (SLEs) and ward round teaching), which contribute to fulfilling their curriculum requirements. The authors believe that the programme with modifications as described below is at least equivalent to teaching provided by the regional teaching programme.

FIGURE 4 demonstrates the feedback and suggestions given by trainees and the change in the teaching programme that has resulted from this. Sessions of low educational value have been replaced or take place at different times during the working day and are not specifically included as part of the teaching programme. It was discussed that these could be made more educationally beneficial, but due to the multidisciplinary nature of the meetings and the time constraints on participants, it was felt that including more neonatal teaching in these sessions would not be possible. There has been an increase in consultant-led teaching in the programme and it is being specifically linked to level 1 and 2 curricula. This ensures that any curriculum gaps can be covered in 'chalk and talk' tutorials to ensure coverage of the whole curriculum in the six-month programme. Concerns raised by trainee feedback mean that they are now given more time to prepare their presentations and the need for feedback for trainee presentations has been emphasised. This last point is important as all doctors are required by the General Medical Council[2] to be able to teach others, however trainees have reported rarely receiving feedback to enable specific improvement of teaching skills and that they would appreciate this, particularly through the use of SLEs.

Feedback/suggestions	Action
Fetal medicine session is not educationally beneficial	Monday morning session changed to a radiology teaching meeting HDU consultant and grid trainee go to fetal medicine MDT
Morbidity and mortality reviews do not include teaching	Morbidity and mortality reviews changed to monthly and other sessions on a Tuesday changed to consultant 'chalk and talk' tutorials
Term admissions meeting is an audit meeting with no teaching or educational benefit	Term admissions now an MDT on Wednesday lunchtimes. Weekly journal club instead
The ST1/2 doing the case presentation agrees on the topic the evening before (during a long day shift), which is not enough time to adequately prepare	ST1/2 agrees on the topic at the beginning of the week giving more time to prepare and does no evening on-calls in this period
Registrar teaching week is excellent and weekly consultant-led teaching sessions are highly valued	Teaching week and consultant-led teaching continued; more consultant-led teaching added to the programme in the form of 'chalk and talk' tutorials
Trainees do not regularly receive feedback on the teaching they do and they would value such feedback	Increased consultants' awareness to give trainees immediate feedback Trainees encouraged to be pro-active and ask for SLEs on their teaching sessions Produce a notice for seminar room: 'Ask for feedback'
Each session needs to link to curriculum items	Produce curriculum linked teaching for level 1 and 2 training Identify gaps and ensure these are allocated every six months (including postnatal ward topics)

FIGURE 4 Changes implemented following feedback from trainees.

Conclusion

In conclusion, this quality improvement project highlights the need for continuing educational governance and review of educational practices in order to provide high quality training for postgraduate paediatric trainees. Regular evaluation of programmes is recommended to ensure that they continue to meet the training requirements of paediatric trainees in terms of both educational provision and preparing them for teaching roles as they progress through training. The amended teaching programme should be re-evaluated to ensure that the changes made have led to an improvement in meeting trainees' curriculum requirements and recommendations based on trainee feedback have been successfully implemented.

References

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