



Review

Can the regular presence of speech and language therapy (SALT) make a difference to best practice on a neonatal unit?



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ABSTRACT

Since 2009 the recommendations for speech and language therapy (SALT) staffing levels on neonatal units specified an 'access to' model, leading to a wide discrepancy in delivery of services across the UK. A comparative quality improvement project (QIP) was delivered in 2017–2018 to determine if regular integrated presence versus historical 'access to' SALT service could influence best practice on a level 2 neonatal unit. Provision of 0.4wte Band 7 SALT to a 18 bed unit over 7 months was agreed. Findings showed a quantifiable increase in referral rates, patterns, and SALT initial assessment response times during QIP. A range of best practice developmental and therapeutic SALT interventions was recorded during QIP, previously not achievable with historical 'access to' model. This QIP could be used to provide evidence of the justified need for regular presence and integrated SALT on a neonatal unit.

1. Introduction

Earlier therapeutic and neuro-protective support has been shown to positively promote downstream neuro-developmental outcomes for pre-term and sick babies on a neonatal unit (Als et al., 2004; Moore et al., 2012; Smith et al., 2011). National neonatal documents alert teams to the need for specialist services such as Speech and Language Therapy (SALT) to support early identification and intervention for oral feeding difficulties and early communication as part of the multi-disciplinary team (MDT) (Caskey et al., 2014; Department of Health Toolkit for High Quality Neonatal Services, 2009; Service Standards for Hospitals Providing Neonatal Care, 2010).

All units are now required to demonstrate that they have 'access to' SALT services as a minimum standard (Department of Health Toolkit for High Quality Neonatal Services, 2009; Service Standards for Hospitals Providing Neonatal Care, 2010). However, there continues to be a discrepancy in both the allocation and delivery of SALT within individual neonatal teams. This has resulted in a wide variation and inequality of SALT care provided to families and their babies during their neonatal stay across the UK (Royal College of Speech and Language Therapists 2017) and possible limited awareness of how SALT can work within a neonatal team.

An integrated neonatal SALT model encourages safer and more positive early oral feeding experiences for parents and their babies from admission. Timely SALT supports identification of atypical feeding skills which may require specialist feeding techniques and in the recognition and responsiveness to babies cues (Harding et al., 2017) in preparation and during oral feeding. Ultimately this approach

maximises the potential for successful feeding and can reduce the risk of aspiration and development of aversive feeding behaviour (Harding et al., 2014, 2015).

Since 2013, three neonatal units in East London have had 'access to' SALT via a networked service based at the tertiary hospital site. With no dedicated onsite investment and widely spread geographical locations, an offsite service with speech and language therapists travelling to the individual sites was offered only when babies were referred by the medical team on the unit.

With this model SALT have only been able to provide a reactive service for oral feeding difficulties when identified by medical team (described as 'Problem based referral' for this project). This model has not been supportive of more current practices of developmentally supportive feeding, when there is regular presence of SALT as part of the MDT. Furthermore, it was the SALT team's belief that the existing service delivery could also be contributing to missed or delayed opportunities for SALT to provide this preventative care.

A one month pilot project was carried out on a level two unit within the trust with the provision of onsite SALT service with 0.4WTE Band 7 SALT with specialist neonatal experience. This highlighted that with weekly presence of SALT on ward rounds, the introduction of a referral system and referral criteria there was a significant increase and positive change in number and type of referrals and interventions SALT could provide in supporting a baby's and parents journey. A 7 month quality improvement project (QIP) to explore the sustained impact an onsite integrated SALT service may have on best practice was proposed.

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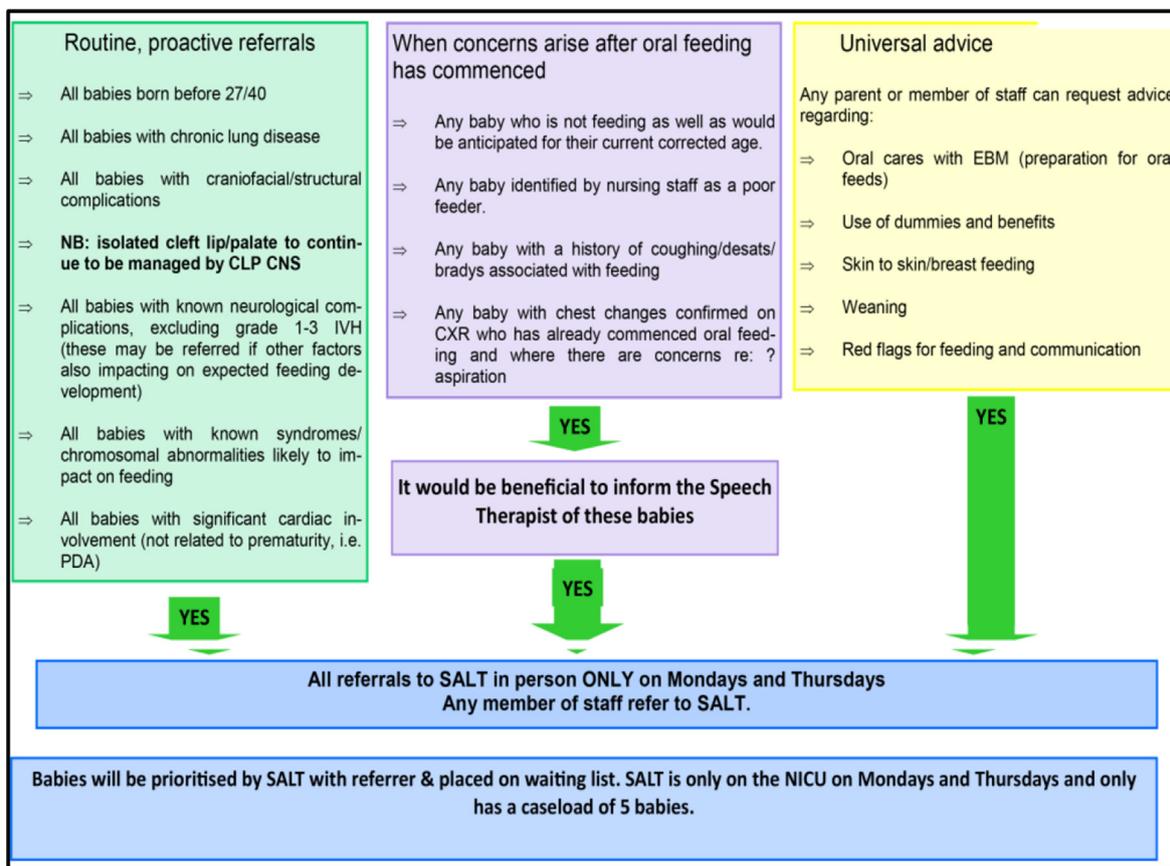


Fig. 1. Referral criteria for Neonatal Unit Barts Health 2017 adapted with permission from J Marks at Central Manchester Hospital.

2. Methodology

2.1. Study design considerations

To show difference between historical ‘access to’ vs an onsite integrated neonatal SALT service a comparative study was agreed, directly comparing data collected during 7 month QIP period and the same time and length of period the preceding year during Non-QIP period.

2.2. Service delivery considerations

Based on service capacity and pilot project findings, 0.4 WTE (2 days/week) Band 7 speech and language therapy provision with neonatal experience was agreed to meet specialist needs of service. This was delivered by x2 Band 7 speech and language therapists providing 0.2 WTE (1 day) each to 18 bed level 2 neonatal unit. SALT attendance at weekly neonatal medical team ward round with a focus on informal education using adapted referral criteria from an established UK neonatal service (also used during pilot study) was agreed (see Fig. 1).

2.3. Ethics

Decision for short term reallocation of onsite Band 7 SALT staff to complete 7 month QIP was agreed by Therapies Head of Service, Neonatal Unit and senior management team.

2.4. Determining key indicators to measure change

The paediatric SALT team collectively discussed and identified key indicators (KI's) which they considered to be positive determinants of neonatal best practice (see Fig. 2). These indicators were influenced by

evidence based practice, service evaluation, SWOT analysis and findings from the pilot project. Further clarification regarding how to categorise referral information was agreed (see Figs. 3 and 4) to ensure consistent recording and data collection. Additionally agreed rationales on how a positive measurement in change would be identified between Non-QIP and QIP periods was made (see Fig. 4).

2.5. Data collection methods and analysis

A prospective excel database was used to record all babies referred to SALT during QIP period and data from all babies referred during the Non-QIP period was retrospectively collected from electronic and SALT case notes. Data recorded included; Gestational age at referral using WHO sub-groups of prematurity classification (28–32 extremely preterm, 32–37 very preterm and > 37 weeks term), description of referral type (then rated as ‘Problem based’ referral or ‘Preventative’ referral), who referred (SALT or medical team) and SALT response time categorised as Same Day, Next Day and > 72 h. Analysis involved manual calculation of numerical differences and percentage change between QIP and Non-QIP periods for each KI.

3. Results

Fig. 5–8 and Tables 1–3 relate directly to findings.

4. Discussion

The quantifiable change in referral rates and patterns observed during QIP could be concluded as having an immediate qualitative clinical impact. Babies previously not considered to need *Preventative* referral to SALT received MDT discussion regarding oral feeding readiness. There was also a significant increase (17/40) in SALT

Key Indicator	Rationale to indicate improved best practice
1.Total number of referrals made to SLT	An increase would indicate that regular presence and awareness of SALT on the unit influenced more referrals
2.Type of referral (Problem based vs Preventative)	An increase in <i>Preventative</i> referrals would indicate improved understanding of need for earlier focus on preparation, readiness and identification of possible risk factors before oral feeding
3.Number of Preventative referrals made by medical team	An increase in <i>Preventative</i> referrals would indicate benefits of referral criteria, SALT education and presence on ward round and an awareness of need for earlier intervention for oral feeding by SALT by medical team
4.Gestational age 28-32 weeks at referral	An increase in referrals in the 28-32 weeks GA bracket would indicate greater awareness of need for earlier focus on preparation and or identification of feeding difficulties and SALT intervention before oral feeding commenced
5. SALT response time to Initial Assessment	A same day response time to initial SALT assessment would show greater efficiency and ability for SALT with integrated model
6. Evidence of SALT preventative interventions	Recorded evidence of SALT facilitating and/or delivering preventative interventions previously not achievable on unit would support increase in best practice with integrated SALT vs 'access to' model

Fig. 2. Key Indicators to measure change.

Problem based referrals
Weak suck
Coughing on bottles
Desaturations with suck feeds
Not completing bottles

Fig. 3. Examples of 'Problem based' referrals historically made.

providingsupplementary lactation and breastfeeding support previously not available with offsite SALT service. There was some evidence that medical team were starting to independently identify babies requiring preventative referral (5). This could be attributed to both the regular presence and education from SALT on the unit and during ward rounds.

There was no significant change in total number of *Problem based* referrals in QIP vs Non-QIP period. However, quicker SALT initial assessment and therapeutic intervention for these referrals during QIP, would have increased positive early feeding experiences.

Weekly SALT attendance on ward rounds with use of SALT referral criteria proved supportive to MDT education, identification and timeliness of suitable babies for SALT intervention. Ward rounds initially included ITU, HDU and SCBU rooms, however the impact on capacity for direct SALT clinical time, resulted in ward round attendance on ITU and HDU only unless requested for SCBU. Using this model, SALT were able to support the MDT to identify babies earlier in their journey who would benefit from additional support in preparation for oral feeding. SALT were also able to provide valuable support to parents to read their baby's readiness cues, facilitate skin to skin and support sensitive

mouthcare reflective of best practice. Although not documented this may have further equipped parents to apply this knowledge to oral feeding when this commenced.

With an increase in the number of infants needing direct support, reduced SALT attendance on ward round during QIP was necessary reducing from weekly to fortnightly. This was seen to have a noticeable negative effect on referral rates and it is likely that during this time appropriate referrals were missed. During this QIP, maintenance of best practice SALT provision still indicated the need for regular presence of SALT on ward rounds.

Same day initial SALT assessment rates (96%) during QIP can be seen to contribute to babies starting oral feeding plans at least 3 days sooner than during Non-QIP. Following this QIP local length of stay and cost savings were calculated using this data to inform a business case proposal. During QIP 4% of babies still waited over 3 days for assessment demonstrating that 0.4WTE Band 7 SALT staffing for 18 bed level 2 neonatal unit was not sufficient to maintain same day initial assessment response time.

4.1. Strengths and limitations

At a local level this QIP provides valuable evidence for business case proposal for an onsite neonatal SALT service. It demonstrates the immediate benefits of how regular and integrated SLT can positively influence best practice. This data was subsequently used to calculate the impact on length of stay and cost saving efficiency of staffing for local business case proposal. This QIP shows that it is possible for a small

Preventative referral descriptors	Rationale
Known risk factor for feeding difficulties	SALT can provide support before likely feeding and communication problems arise in babies with neuromuscular conditions or HIE, CLD and those born extremely prematurely
Lactation support (frequency, technique, skin to skin).	SALT can support unit promotion of timely lactation and breastfeeding advice in the absence of named breastfeeding nurse/lactation consultant on the unit
Mouthcare with EBM	SALT can support unit education about the benefits of familiar and positive taste/smells for baby
Supporting parent to carry out mouth cares (positive touch)	SALT can support unit education through direct demonstration to parents alongside nursing colleagues
Reading baby's cues during cares (signs of engagement versus disengagement)	SALT can support early parental bonding and attunement by working alongside neonatal colleagues to help recognition and response to baby's individual cues in preparation for oral feeding
Reading feeding readiness cues	SALT can support parents to be aware of their role in recognising their babies readiness for oral feeding
Comfortable digestion	SALT can support in advice regarding identification and management options for possible symptoms of reflux which may reduce barriers to progress with oral feeding alongside neonatal colleagues

Fig. 4. Examples of Preventative referral reflective of best practice.

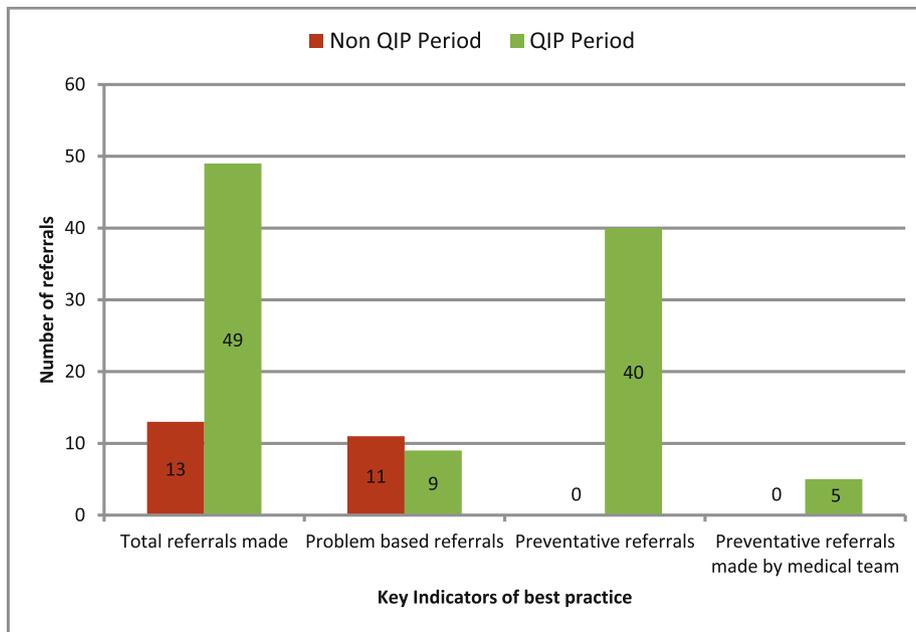


Fig. 5. Comparative graph of Key Indicator 1,2,3 results between Non-QIP and QIP periods.

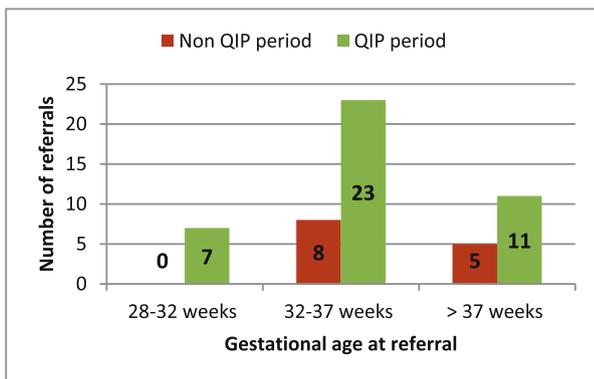


Fig. 6. Comparative graph of Key Indicator 4 results between Non-QIP and QIP periods.

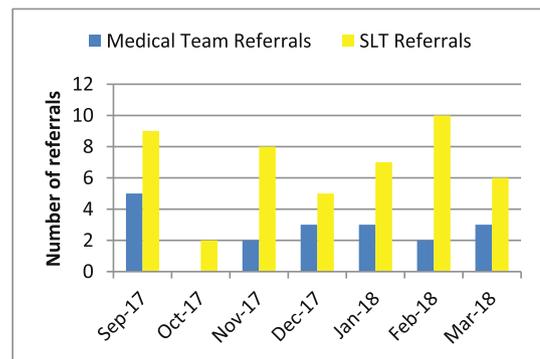


Fig. 8. Comparative source of referrals made by medical team and SALT month by month during QIP Period.

■ Same day Initial SALT assessment
 ■ Next day Initial SALT assessment
 ■ >72 hours Initial SALT assessment

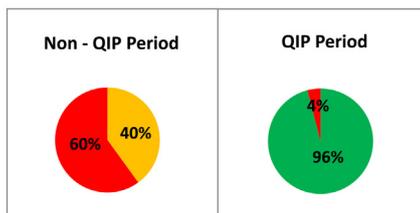


Fig. 7. Comparative pie chart % of Key Indicator 5 results between Non-QIP and QIP periods.

SALT service to identify need for change and to become a valued part of the neonatal MDT when there is flexibility and openness to try a new way of working together.

At a national level this QIP contributes to a gap in current evidence base regarding potential service models for neonatal units, who may be considering funding integrated neonatal SALT.

Data regarding perception of added value of dedicated SALT service by neonatal MDT and its impact on parents was not collected. This may have added further qualitative insight and support to the QIP and reflects limited time allowance to collate this data during this project.

Table 1

Evidence of use of referral criteria for Key Indicator 3 during QIP period.

Preventative referral descriptors from medical team	
Preventative Referral Descriptors	No of referrals
Known risk factors for feeding difficulties	4
Reading oral feeding readiness cues	1

Table 2

Comparative graph of Key Indicator 1,2,3 results between Non-QIP and QIP periods.

Percentage Change between Non-QIP & QIP Periods for Key Indicators	
Key Indicator	Percentage Change
1 Total no. of referrals made	276% increase
2 Type of referral (problem based vs preventative)	100% increase
3 Total no. preventative referrals made by medical team	100% increase
4 Gestational age 28–32 weeks at referral	100% increase
5 SALT same day initial assessment response time	96% increase

Table 3

SALT qualitative evidence of Key Indicator 6 best practice interventions provided for Preventative referrals.

Therapeutic and neuro-protective SALT provided for Earlier feeding referrals	
Type of SALT preventative intervention	No. babies and families receiving this from SALT
Lactation support (frequency, technique, skin to skin).	17
Mouthcare with Change to Expressed Breast Milk (EBM)	4
Supporting parent to carry out mouth cares (positive touch)	4
Reading baby's cues during cares (signs of engagement versus disengagement)	2
Reading feeding readiness cues	7
Comfortable digestion	2

SALT acknowledge that the presence of any new profession within an existing team requires time to become established. Therefore this 7 month QIP may not have provided sufficient time and engagement to optimise outcomes.

5. Conclusion

This QIP demonstrates that a change in service provision from historical 'access to' SALT model to regular and integrated onsite SALT can significantly and positively influence best practice. It can therefore be concluded from this local QIP that an integrated neonatal SALT service is preferable to the current Department of Health's recommendation of 'access to' SALT and potentially indicates a revision of these specifications.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jnn.2019.04.001>.

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