Quality Improvement and Patient Safety

NEWBORN AND INFANT PHYSICAL EXAMINATION SCREENING: QUALITY IMPROVEMENT IN THE ENGLISH NEWBORN SCREENING PATHWAY

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Background The newborn and infant physical examination (NIPE) screening programme screens newborn babies within 72 hours of birth in England for congenital heart disease, congenital cataracts, developmental dysplasia of the hip, and cryptorchidism (bilateral and unilateral undescended testes). Failsafe of completion of NIPE screening is managed on the national NIPE IT system SMaRT4NIPE (S4N). This is implemented in 135 of 136 trusts in England and records the end to end screening pathway including outcomes for screen positive babies. Babies are eligible for screening irrespective of their gestational age at birth however babies that are ‘too ill’ for screening are managed as a mitigation to coverage with an acceptable threshold for the key performance indicator of 95% within 72 hours of age (2019–2020). Feedback from clinicians and monitoring of the completeness of the data recorded on S4N prompted quality improvement work in the NIPE screening pathway.

Objectives Quality improvement of newborn screening coverage and timely entry into diagnostic and treatment services in the NIPE screening programme.

Methods 1. Analysis of completeness of outcome recording on S4N with monitoring reports shared with screening commissioners and screening quality assurance.

2. Professional expert groups to revise clinical guidance, identify refinements in the hip and eye screening pathway and clarify definitions of ‘too ill’ and ‘too young’ for screening.

Results In 2018–2019 when between 33 and 77 (120 trusts with S4N) did not record outcomes against the 5 NIPE standards with less than with 50% data completeness for those that did. Following quality improvement work which included additional training sessions for providers in the use of S4N and production of monitoring reports for screening commissioners Q4 2020 data in England is now between 71 – 88.5% complete for each of the 5 NIPE standards (135 trusts with S4N).

Refinements to the screening pathway include improved clinical guidance with photographs of abnormal red reflex, change from ophthalmology review within 2 weeks of age to within 2 weeks of screen for eye referrals and changes to the recommended timeframe for hip ultrasound to between 4 and 6 weeks with specialist review by 6 weeks for all babies (positive clinical examination and hip risk factors). Babies that are aged less than 34 weeks corrected gestational age are deemed ‘too young’ to have the newborn screen and the clinical handbook gives examples of what is meant by ‘too young’ for screening. These changes improve clinical efficacy of the pathways.

Conclusions Improvements in the completeness of recording of NIPE screening including outcomes on S4N provides assurance that babies with screen positive conditions are being followed up and referred and seen within the recommended timelines. Clarification of ‘too ill’ and ‘too young’ for NIPE should improve the standardisation of approach across England. It supports the practice of completion of NIPE examination prior to discharge for babies born prematurely. The screening pathway refinements recommended by the expert group have been incorporated into revised NIPE standards following external consultation. These are to be implemented from April 2021.

REFERENCES
2. Jenny Keating.