TIMELY SCAN, A LIFELONG SPAN

Timing and documentation of cranial ultrasound scans in the Neonatal unit

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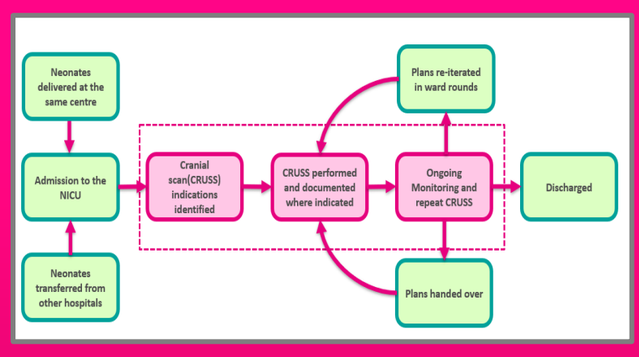
PROBLEM

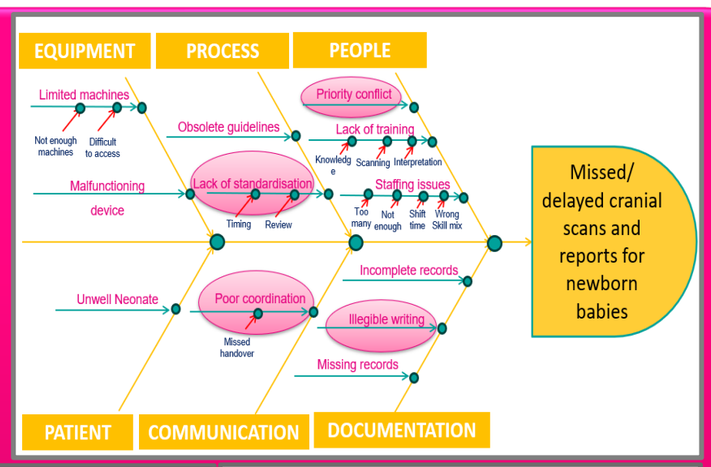
Brain scans and reports on our babies are often **missed or late.** This **delays** diagnosis and **disrupts** care. Anxious families are **left waiting for answers,** whilst staff feel **frustrated and unsure.**

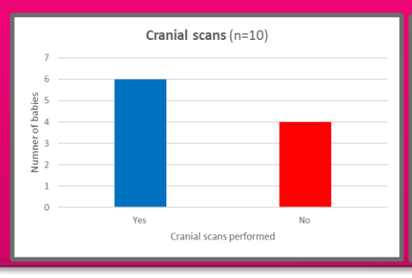
BACKGROUND

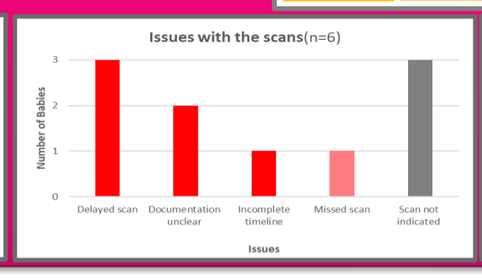
Babies in the neonatal unit are not having regular cranial ultrasound scans as per the guidelines. Some babies have scans to begin with, most of them may have scans afterwards but not as per the scan timeline or are missed from having scans. Some babies have the scans, but the scan reports are not clear or missing.

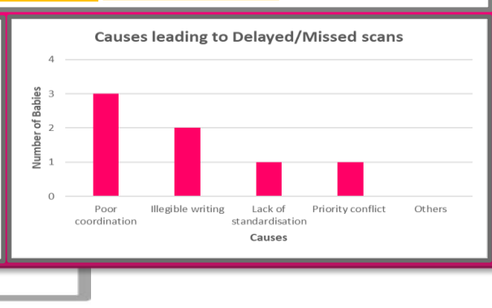
DIAGNOSTICS











AIM

By August 1st 2025, nine out of ten neonates on our unit will have timely brain scans with the results readily available to doctors and the families.

MEASUREMENT

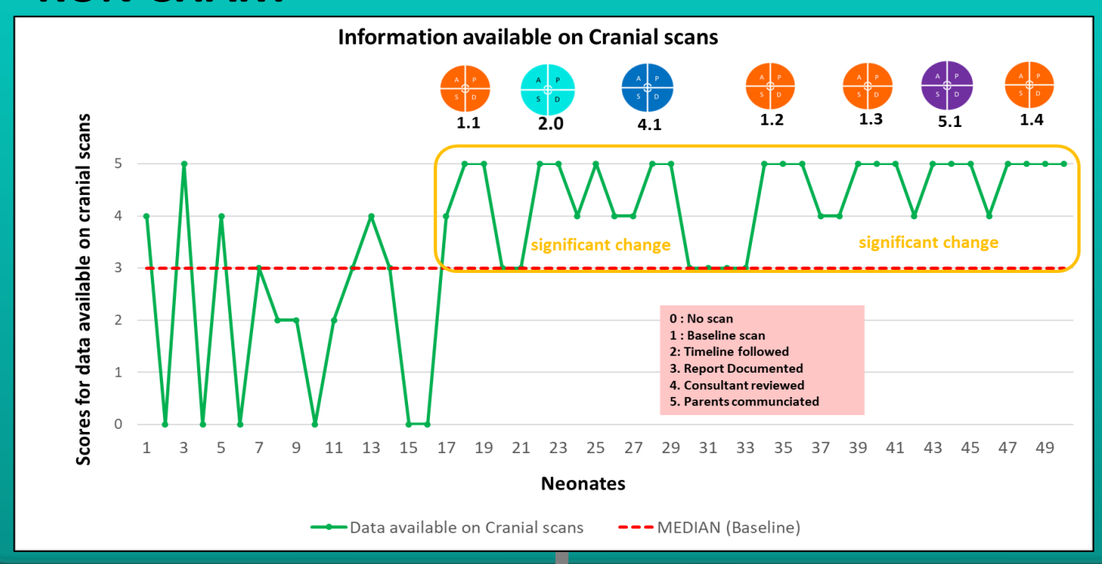
Number of neonates who have had cranial scans as per the proposed timeline and have clear documentation of their reports, scored from 0-5 as described on the run chart

CHANGE IDEAS

PDSA CYCLES

PDSA	PLAN	Do	STUDY	ACT
1.1	**Teaching session**	Prepare a short one slide power point presentation, and present it myself in the NICU MDT operational meeting on 4th of July 2025.	There were 25 attendees including Consultant, resident doctors, nurses, AHP's and the admin team. Few suggested to present this in the NICU safety and Quality group Meeting (NSQG)	**EXTEND**: Continue displaying this presentation in weekly operational meeting. To present this in the NSQG meeting.
1.2	**QI project presentation in the NSQG meeting**	Myself to present on July 10th 2025 NSQG meeting, elaborating the problem statement, aim, baseline run chart, indications, timeline and documentation of Cranial scans in NICU	There were around 30 attendees including Consultant, resident doctors, nurses, AHP's, Quality team and the admin team. Feedback to include day 14 scan in the timeline.	**EXTEND**: Teaching session to the remaining junior doctors who could not attend the meeting.
1.3	**Teaching session in the departmental teaching program**	Find a teaching slot to get as many resident doctors as possible to discuss about the importance of cranial scans in NICU and present it myself. Slot available was on July 25th 2025	Presented to 2 registrars and 4 SHO's in the doctor's room during lunch break. Got good feedback from the registrars. SHO's were happy to learn about the important information on cranial scans. One registrar volunteered to be cranial scan champion to do weekly checks.	**EXTEND:** To repeat the teaching session when rest of the resident doctors are working after doctor's strike.(In august)
1.4	**Repeat teaching session in the departmental teaching program**	Myself to repeat the teaching session to rest of the doctors who missed the teaching previously on August 7th 2025	3 Registrars and 4 SHO's present. Two SHO's were keen to learn the CRUSS, learnt how to perform cranial scan from me the following week and now regularly do them.	**EXTEND and ADAPT:** Shared and discussed the one page power-point slide with the Consultant who does the induction program to the new doctors joining on Sept 1 to continue sharing the importance of CRUSS.
2.1	**Posters in clinical areas as reminders**	Myself to design the poster that includes indications, timeline and important aspects of CRUSS.	Displayed the poster during NSQG meeting. Got feedback from Consultant to add day 14 to the timeline for performing scans	**EXTEND and ADAPT:** Posters displayed in blood gas room, ward round folder trolleys in ITU/SCBU and in the doctors office. Poster added as desktop wallpaper in the doctors room computers as reminder.
3.1	**Information leaflets for parents**	Myself to design a parental leaflet about details of cranial ultrasound scans , indications, procedure, risks, timeline and how parents can be part of the process	I have designed the leaflet and it has been rectified with guidance from a Neonatal consultant.	**EXTEND and ADAPT:** Leaflet needs further changes from -all neonatal colleagues -presentation in NSQG meeting, -presentation in Children's directorate meeting -Feedback from patient voiceover -Feedback from PALS Then final printout for families.
4.1	**Involving Stakeholders**	To discuss with the Neonatal consultant who is also a Neurodevelopmental lead to support with the project	I discussed with the Consultant regarding the whole project and they will continue supporting the project by advocating for timely scans and documentation.	**EXTEND and ADAPT:** To remind Resident doctors to have protected time at around 3pm daily to perform pending scans.
5.1	**WhatsApp/ Handover reminders**	To send regular reminders regarding pending scans	I have WhatsApp reminders to request to perform the scans on time, to follow timeline, documentation and communication with parents	**EXTEND and ADAPT:** -To encourage the Cranial scan champion to continue sending reminders on WhatsApp after my rotation. -To encourage Sunday night registrar to check which scans are pending and to discuss in Monday morning handover.

RUN CHART



CONCLUSION

- **Aim and outcome**: The initial goal was for 9 out of 10 neonates to have timely brain scans by August 1st, 2025. This was nearly achieved, with 8 out of 10 babies now having their scans on time and reports available promptly for doctors and families.
- **Significant change:** Following the introduction of PDSA cycles, there were ≥7 consecutive points above the median. As per the run chart rules, this indicates a shift and a statistically significant improvement rather than a random variation. This demonstrates that the changes had a real, positive impact on the process, increasing the reliability and completeness of the cranial scan information .
- **Key drivers of improvement**: Repeated teaching sessions across different forums in the neonatal unit were particularly effective. Posters also served as helpful visual reminders to colleagues about scan timelines.
- **Lessons from testing change**: Small-scale tests of change proved successful in generating meaningful improvements over time. Handover reminders, however, were less effective as they required additional effort and motivation to identify and discuss pending scans.
- **Sustaining improvements**: To maintain progress, the importance of cranial scans will be highlighted in the next induction meeting for incoming doctors. Additionally, a dedicated "cranial scan champion" has been appointed to regularly monitor and ensure that timely scans continue, acting as a point of accountability within the team.
- **Next steps**: Parent information leaflets remain under development and have not yet contributed to the improvements, but they represent an area for future progress.

REFLECTIONS & LEARNING

1. Learning from the model for improvement has given me an organized way to tackle the problem, test ideas in a stepwise manner, and measure their impact with data. I was able to drill down to the root issues, drop the lesser effective changes, and build on the ones that worked. This flexible, progressive approach has shown me how small, measured changes can lead to meaningful improvement.
2. I recognize the challenge of sustaining change beyond my own presence. While some interventions, such as WhatsApp reminders, may be harder to maintain long-term, I am confident that with stakeholders like a cranial scan champion and the Neonatal Neurodevelopmental consultant supporting the process, these improvements can be embedded and sustained within the unit.

Acknowledgements:
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