Don't let the Golden Hour turn into a Rusty Afternoon

Improving time to antibiotic delivery in neonatal sepsis

Dr Jo Finch
Homerton Hospital

Homerton Healthcare NHS Foundation Trust

BACKGROUND

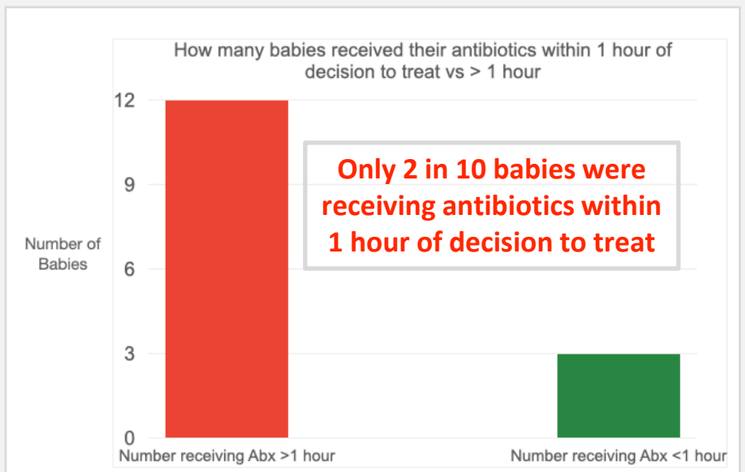
PROBLEM

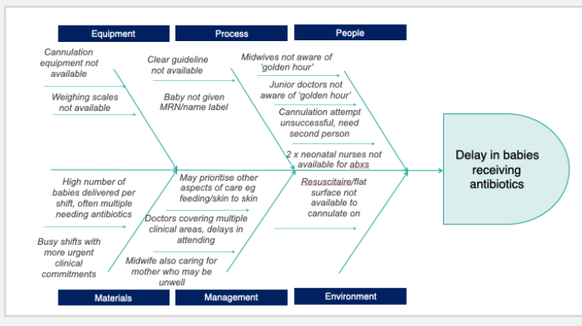
There are **huge delays** in delivering life saving antibiotics to newborn babies.
This **risks sepsis and death**.

NICE National Institute for Health and Care Excellence

1.3.9. If a baby needs antibiotic treatment, give this as soon as possible and **always within 1 hour** of the decision to treat (DTT)

DIAGNOSTICS



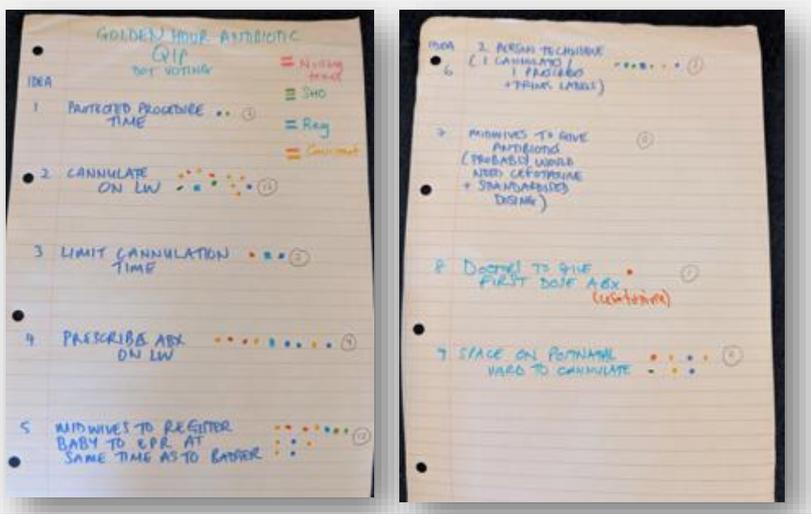


AIM & MEASUREMENT DEFINITION

Aim: To increase the proportion of at risk or symptomatic babies on labour ward or the postnatal ward receiving antibiotics within 60 minutes of decision to treat from 2 out of 10 to 7 out of 10 by 28th Feb 2026.

Measurement: The number of newborns who receive their first dose of antibiotics within 1 hour of decision to treat.
Inclusion Criteria: Newborn babies requiring antibiotics on labour ward or the postnatal ward born at Homerton Hospital
Exclusion criteria: Babies admitted to the Neonatal Intensive Care Unit

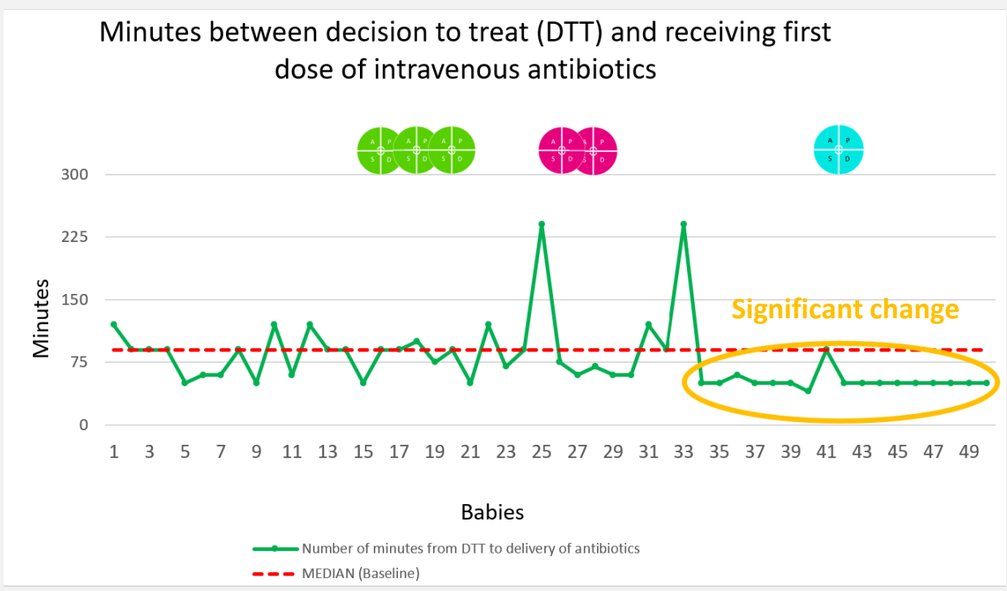
CHANGE IDEAS - Dot Voting



PDSA cycles

PDSA Test #	PLAN	Do	STUDY	ACT
1.1	Raise awareness amongst medical team about 'Golden Hour' antibiotics	13th Jan 2026 - Delivered teaching session to all NICU medical staff, resident doctors and consultant on golden hour antibiotics.	Collected data on time to antibiotic delivery after session. Identified additional barriers to antibiotic delivery through discussion, used 'Dot Voting' to plan sequence of PDSA cycles. No improvement in antibiotic delivery time	ADAPT AND EXTEND - Embed need for golden hour antibiotic delivery with visual reminders, and with changing cohorts staff. 5 minute presentation in induction, and hand over to next team of 'antibiotic champions' each rotation.
1.2	Visual reminders/ posters	Colourful posters placed in clinician workspace - remind of golden hour antibiotic importance and ongoing QIP	Initially useful, lost impact over only a few days. No significant improvement in antibiotic delivery time	ADAPT - More frequent reminders needed, use departmental WhatsApp group to remind 1-2/week
1.3	Departmental message reminders sent out 1-2/week	WhatsApp message sent out 1-2/week to remind team about importance of golden hour antibiotic QIP	Well received by some team members, but inconsistent response. Not sustainable. No significant improvement in antibiotic delivery time	ADAPT - Need to engage rest of MDT including midwifery team, education session to be run for midwives
2.1	Midwifery team education	6th Feb 2026 -Midwifery team teaching in PROMPT (PRactical Obstetric Multi-Professional Training) on golden hour antibiotics and identification of risk factors	Well received, high levels of enthusiasm and engagement. Other change ideas suggested by this MDT. Seeing from 'other side' helps to consider other improvement ideas.	ADAPT and EXTEND - Embed midwifery education in their preexisting "PRactical Obstetric Multi-Professional" Training. In response to midwifery suggestion - resident doctor should remind Labour ward clark to add babies to electronic record to speed up medical record number generation.
2.2	Baby to be added to Electronic Record more quickly	9th Feb - Resident doctor to verbally prompt Labour ward clerk to add baby to Electronic record after screening baby.	Worked well in some cases, speeding up the overall process of sending bloods and being able to give antibiotics, but less consistent out of hours/overnight.	ADOPT - Whole team educated with plan for ongoing education embedded in curriculum. Now tackle 'equipment'
3.1	Cannulate on labour ward	16th Feb 2026 - Cannula 'grab bags' made up, resident doctor takes with ward to cannulate	Significant improvement in antibiotic delivery time with a run of 10 babies receiving antibiotics within 1 hour from DTT.	ADOPT and ADAPT - cannulating on labour ward with available equipment shows significant improvement in antibiotic delivery time.Trail of cannulation trolley stocked and stored on LW to save time making up grab bags.
3.2	Cannulate on Labour Ward using cannula equipment from labour ward trolley	Continue to cannulate on labour ward, but using stock from existing emergency trolley. NICU nurses would stock		
4.1	Embed golden hour antibiotic delivery in culture of the department	1. Each new rotation has 2 antibiotic champions to audit and continue QI work.		
4.2	Embed golden hour antibiotic delivery in culture of the department	The NICU SPRs who teach PROMPT MDT teaching to obstetric/anaesthetic/midwife colleagues to add 1 slide on golden hour antibiotics to their neonatal session		

RUN CHART



CONCLUSIONS

- This project achieved the aim of improving golden hour antibiotic delivery, from 2 in 10 to 9 in 10 babies
- The run chart highlights 16 consecutive data points below the median line (points on median excluded). This is a statistically significant change, unlikely to have occurred by chance ($p<0.007$)
- The biggest improvement was seen after changing the location of cannulation to labour ward using cannula 'grab bags'

REFLECTIONS

Further PDSA cycles are planned to improve antibiotic delivery times and sustain this change including:

- Embedding golden hour training in PROMPT teaching and induction
- Nominate 2 'Antibiotic Champions' per rotation to continue antibiotic advocacy
- Stock and use a cannula trolley on labour ward
- Change 1st line antibiotics from Benzylpenicillin and Amikacin, to standardised Cefotaxime for ease of prescription and speed of delivery

| qiclearn.com | londonpaediatrics.co.uk
| @qiclearn | Contact: joanna.finch1@nhs.net

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Change CHAMPION