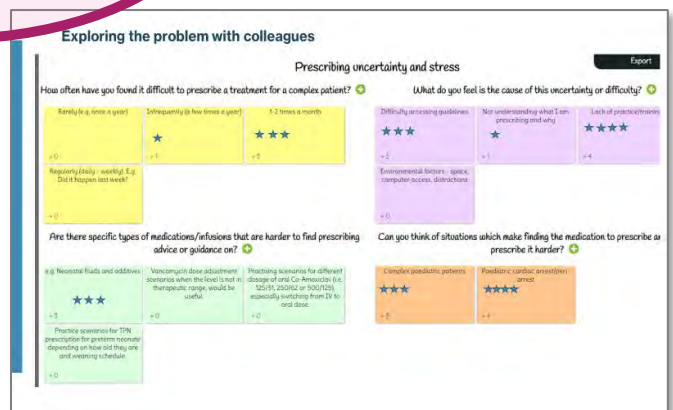


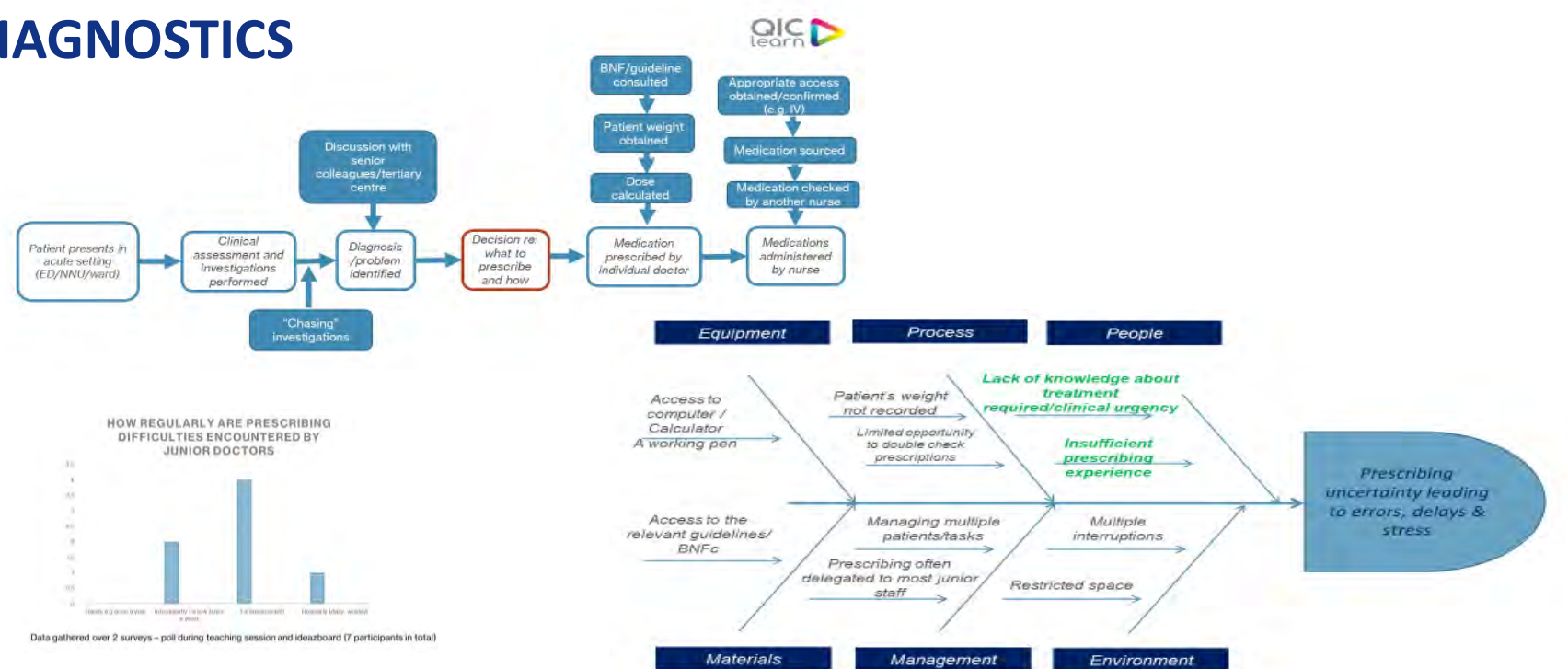
BACKGROUND

Doctors don't receive enough practical training to prescribe medications for complex patients.

This adds to stress and uncertainty in emergencies; contributes to prescribing errors and delays starting time-critical medications



DIAGNOSTICS



AIM & MEASUREMENT DEFINITION

YOUR AIM

- By mid-September 2021, junior paediatric prescribers* should receive training in:
- 1) Prescribing neonatal infusions if working in the neonatal unit.
 - 2) Prescribing in acute asthma/whoeze
- *Foundation doctors and senior house officers

7 steps to measurement



A list of measures you COULD choose from

- 1) **Measurement of prescribers' confidence/preparedness in the prescribing scenarios specified in the aim.**
- 2) Number of prescribers who have received training in prescribing in situations specified in the aim.
- 3) Number of simulation sessions which include prescribing as form of training.

- ☐ Easy
- ☐ Reliab
- ☐ Repro
- ☐ Meanin
- ☐ Inform

CHANGE IDEAS

PDSA 1: Change Idea and data collection: Neonatal infusions

PDSA 1.1: Sample page from detailed PDF reference guide on neonatal intravenous fluids and parenteral nutrition	PDSA 1.2: Revised single page PDF reference guide on prescribing neonatal intravenous fluids
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Prescribing neonatal maintenance fluids

[illegible][illegible]

PDSA 2: Change Idea and data collection: Asthma medications

PDSA 2.1: PDF reference guide on asthma medications (see sample pages below)
PDSA 2.2: Explaining the guide in person to new doctors

When an attends ED with wheeze and increased work of breathing...

- * Oxygen saturations > 94% on 2L nasal cannula on arrival and SpO₂ if not previously > 94% prior to oxygen device applied.
- * Prescribe 30L of pressurised air via a spacer (Rescue 15 minutes, if not improving, prescribe 2 further 30L of pressurised air to give 90 minutes supply. This is also known as "Short Asthma Inhaler").

UCLH	UCLH	UCLH	UCLH
UCLH	UCLH	UCLH	UCLH
UCLH	UCLH	UCLH	UCLH
UCLH	UCLH	UCLH	UCLH

Intravenous medications - aminophylline infusion

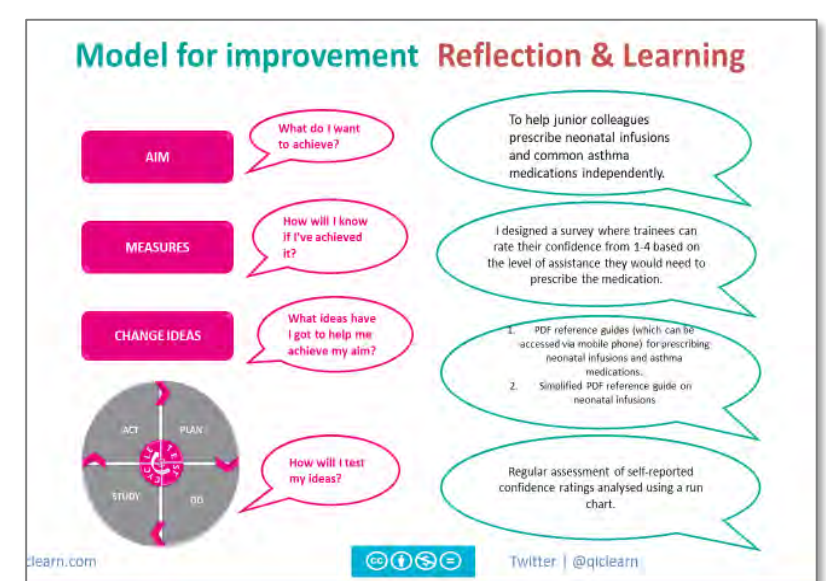
- * The infusion is 12mL of 250mg over 12hrs = 5.56mg/kg/hr
- * Aminophylline has a narrow therapeutic window - a small dose to the other side after starting treatment. Check blood levels to ensure the patient is not over treated.
- * A level of 20mg/L is therapeutic
- * A level of 28mg/L is toxic
- * Treatments to be stopped if the patient is not responding to treatment or if the patient is showing signs of toxicity.
- * For a 20kg child (0.05 x 20kg sodium chloride can also be used if needed)

UCLH	UCLH	UCLH	UCLH
UCLH	UCLH	UCLH	UCLH
UCLH	UCLH	UCLH	UCLH
UCLH	UCLH	UCLH	UCLH

Survey of confidence rating	
Please rate your confidence in respondents based on the following questions and provide a confidence rating (1-5) for each question. 1. Not confident 2. Slightly confident 3. Somewhat confident 4. Fairly confident 5. Very confident	Please rate your confidence in respondents based on the following questions and provide a confidence rating (1-5) for each question. 1. Not confident 2. Slightly confident 3. Somewhat confident 4. Fairly confident 5. Very confident
1. I am confident that respondents will provide accurate information. 2. I am confident that respondents will provide information that is relevant to the survey. 3. I am confident that respondents will provide information that is consistent with the survey objectives. 4. I am confident that respondents will provide information that is useful for the survey. 5. I am confident that respondents will provide information that is reliable.	1. I am confident that respondents will provide accurate information. 2. I am confident that respondents will provide information that is relevant to the survey. 3. I am confident that respondents will provide information that is consistent with the survey objectives. 4. I am confident that respondents will provide information that is useful for the survey. 5. I am confident that respondents will provide information that is reliable.

PDSA cycles

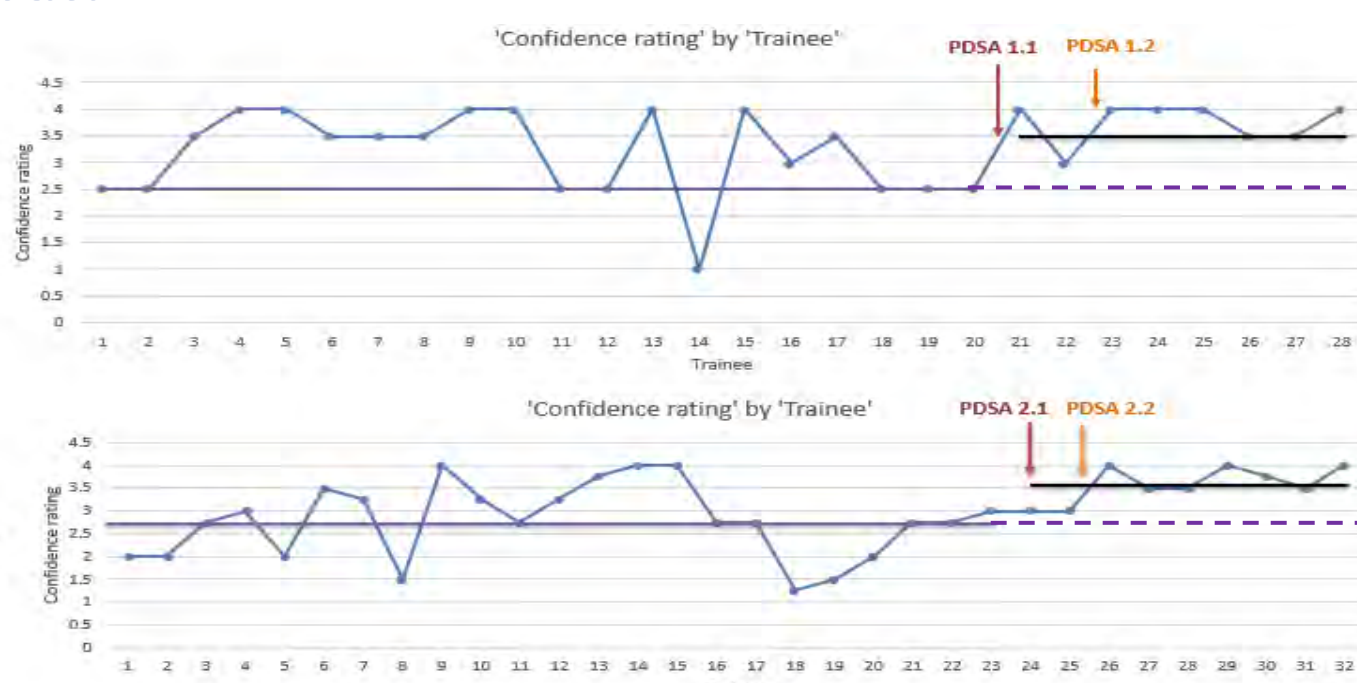
PDSA Test #	PLAN	Do	STUDY	ACT
1.1	 Detailed PDF reference guide on neonatal intravenous fluids and parenteral nutrition	Design a guide Distribute via email/ whatsapp	Advice from mentors – guide was complex, to focus on neonatal fluids Feedback from colleagues – positive but more beneficial earlier in rotation. Increase in confidence scoring noted	ADAPT: Design a separate/one-page prescribing tool and redistribute
1.2	 Revised one-page neonatal maintenance fluids prescription guide	Redesign a guide Distribute via email/ whatsapp	Increase in confidence rating noted – all trainees surveyed said they were either confident to prescribe independently or using a guide they could access in <5 minutes.	ADAPT/ADOPT: to consider displaying this as a poster in the neonatal unit or as a reference card attached to lanyard.
2.1	 Asthma medications PDF reference guide	Design a guide Distribute via email/ whatsapp	Advice from mentors – to focus on neonatal fluids alone. Increase in confidence rating noted among trainees but numbers doing survey was limited	ADAPT: Increase distribution
2.2	 Distribution of asthma tool in-person rather than via whatsapp/email	Distribute in person rather than via mobile platform to increase use/awareness	Increase in confidence rating noted among trainees especially by opportunistically introducing it to new GP trainees who started in August	ADOPT: Consider adopting following input from trust asthma lead.



RUN CHART

PDSA 1:
Neonatal
infusions
Median score
to PDSA = 2.5
Median score
PDSA 1 = 3.5

PDSA 2:
Asthma
medications
Median score prior
to PDSA = 2.63
Median score after
PDSA 2: 3.5



REFLECTIONS & LEARNING

- Idea was well-received by junior colleagues who wished they had a prescribing resource when they first started the rotation.
- Producing a prescribing resource for neonatal infusions and asthma took several revisions and was time intensive.
- **Lessons learnt:** To focus on a specific medication and spend more time on the distribution of the resource. In PDSA 1.2, after feedback from mentors I focused on neonatal intravenous fluids alone.
- **Limitations:** Perceived confidence likely to be higher at the time of testing as it is closer to the end of the rotation, limited time period for resource to be used regularly.
- **Future development/PDSA:** Distributing the resource as a reference card attached to a lanyard or displaying it in areas where prescribing occurs i.e. neonatal unit.