Improving Prescribing Safety on a London Paediatric Intensive Care Unit: a Multi-Disciplinary Team Approach

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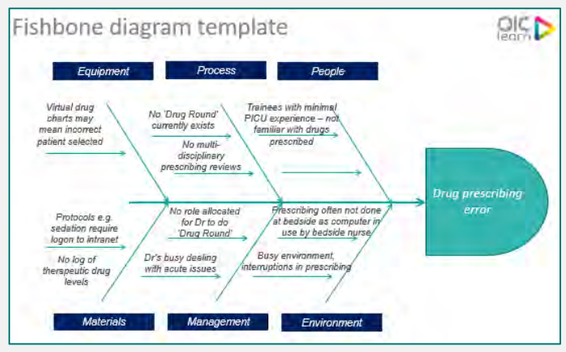
BACKGROUND

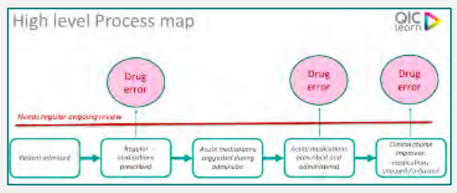
To err is human…experts estimate that as many as 98,000 people die in any given year from medical errors occurring in hospitals (Kohn et al 2000)

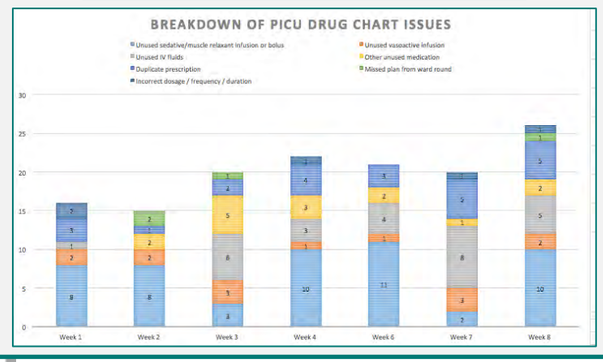
PROBLEM STATEMENT:
Irregular review of drug charts and interrupted prescribing on Paediatric Intensive Care means medications are missed and drug errors made. This causes avoidable delays to treatment and serious harm

DIAGNOSTICS

10 drug charts were reviewed weekly for 2 months prior to intervention to assess quantity and type of drug errors being made, allowing the team to consider the most effective interventions to improve practice.







AIM & MEASUREMENT DEFINITION

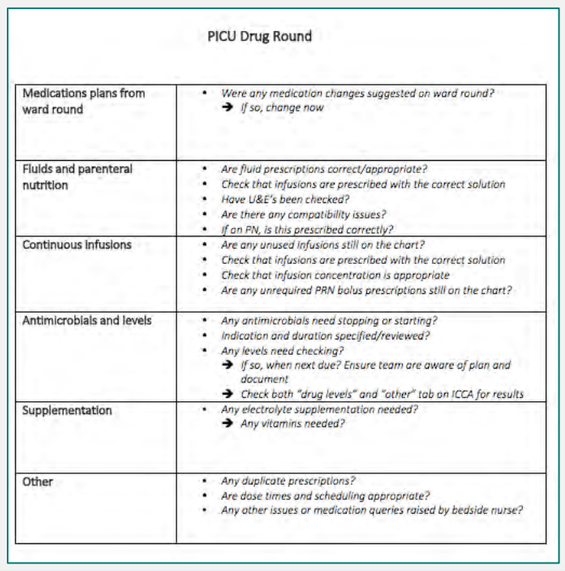
Aim: To reduce the number of errors on drug charts at St Mary's PICU by at least 50% by March 2023

Measure: Number of errors on each inpatient drug chart currently admitted on the unit.

Prior to intervention, number of drug errors were recorded on a baseline of 15 inpatient drug charts. Following intervention, number of errors on each inpatient drug chart was counted initially daily and later weekly. Number of charts reviewed varied depending on number of inpatients (range 7-15).

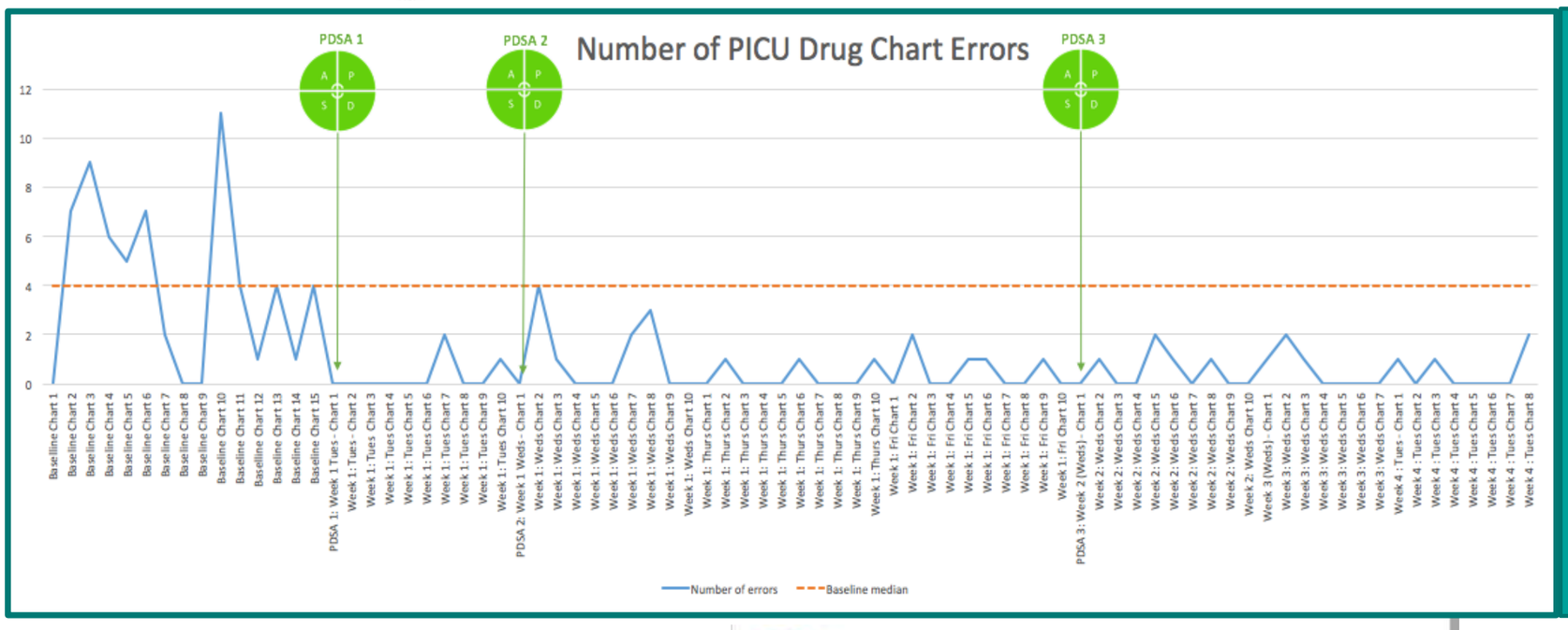
CHANGE IDEAS

- Daily MDT bedside 'Prescribing round' with doctor / pharmacist – to address prescribing errors
- Daily MDT bedside 'Prescribing round' with nurse / pharmacist - to address administrative errors
- Daily MDT bedside 'Prescribing round' with doctor / pharmacist / nurse – to address prescribing and administrative errors
- Daily drug chart 'checklist' completed by pharmacist on reviewing drug charts remotely



PICU Drug Round

Medications plans from ward round	• *Were any medication changes suggested on ward round?* → *If so, change now*
Fluids and parenteral nutrition	• *Are fluid prescriptions correct/appropriate?* • *Check that infusions are prescribed with the correct solution* • *Have U&E's been checked?* • *Are there any compatibility issues?* • *If on PN, is this prescribed correctly?*
Continuous infusions	• *Are any unused infusions still on the chart?* • *Check that infusions are prescribed with the correct solution* • *Check that infusion concentration is appropriate* • *Are any unrequired PRN bolus prescriptions still on the chart?*
Antimicrobials and levels	• *Any antimicrobials need stopping or starting?* • *Indication and duration specified/reviewed?* • *Any levels need checking?* → *If so, when next due? Ensure team are aware of plan and document* → *Check both "drug levels" and "other" tab on ICCA for results*
Supplementation	• *Any electrolyte supplementation needed?* → *Any vitamins needed?*
Other	• *Any duplicate prescriptions?* • *Are dose times and scheduling appropriate?* • *Any other issues or medication queries raised by bedside nurse?*



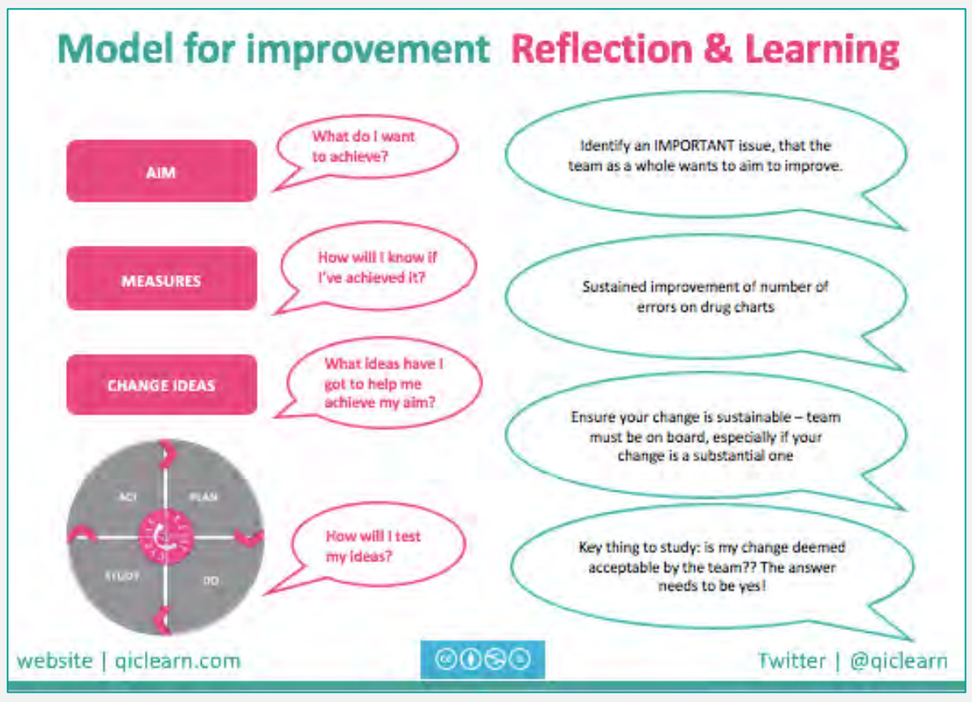
Errors:
Incorrect dosage/ frequency/duration of drug
Medication plan from ward round not implemented on drug chart
Duplicate prescriptions
Unused sedation/ muscle relaxant, vasoactives / IV fluids
Other medications remaining on chart when no longer clinically indicated

Maximum number of days an unused infusion remained on a drug chart = 19

PDSA CYCLES

PDSA Test #	PLAN	Do	STUDY	ACT
1.0	Bedside MDT Drug Round to be introduced	Short prescribing round at bedside following consultant PICU Ward Round: Pharmacist, Doctor, and Bedside Nurse Likely to reduce prescribing issues and potential errors	Took 45 minutes -1 hour: deemed too long by team Drug errors reduced to below median	Adaptation to shorten Drug Round
1.1	Adaptation to remote MDT Drug Round	Short prescribing round done remotely (MDT office) following consultant PICU Ward Round: Pharmacist and Doctor	Took 30 minutes – improvement Drug errors remain below median	Adaptation to shorten Drug Round
1.2	Adaptation of remote MDT Drug Round – pharmacist prepares in advance	Short prescribing round done remotely (MDT office) following consultant PICU Ward Round: Pharmacist and Doctor. Preparation in advance by pharmacist.	Took 20 minutes - improvement Drug errors remain below median	Team happy with this model

REFLECTIONS & LEARNING



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QI Change Champion
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