Keeping babies breathing

Introducing CPAP for acute respiratory illness in infants in a district general hospital

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My improvement problem & evidence base

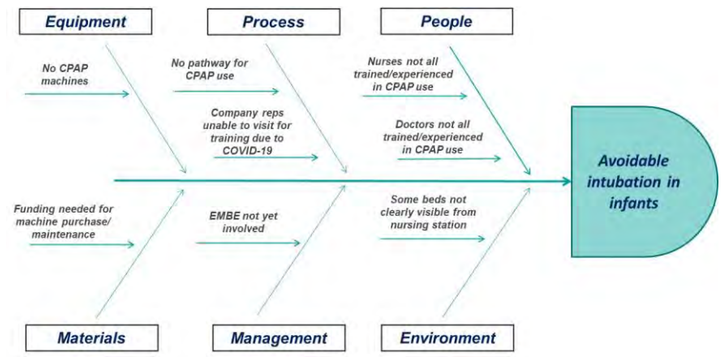
Many babies with respiratory infections get put on ventilators and transferred to specialist hospitals. This is risky for them and enormously stressful for their families.

"The worst journey of our lives": parents' experiences of a specialised paediatric retrieval service

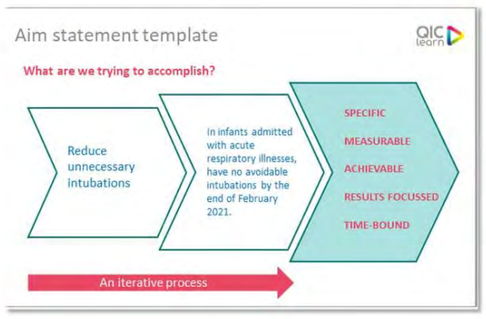
Mum's warning after baby who caught common cold is rushed to intensive care

Understanding the problem

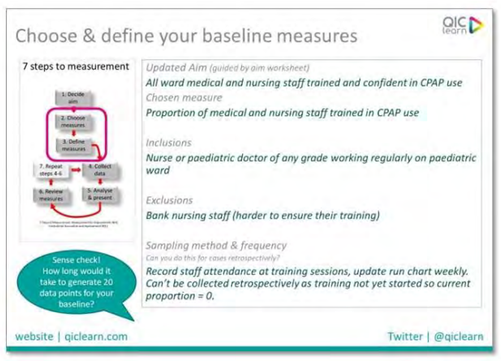
Baby admitted with acute respiratory difficulty → Assessed to need respiratory support → Started on HHFNC oxygen → Deteriorates further (or too unwell to start HHFNC) → Intubated and ventilated; transferred to PICU



My improvement aim



My measures & definition



My change ideas

List all the ideas you **could** test...

- Staff training
  - in-house sessions, company reps, online videos, simulation, workbooks, staff already trained/experienced elsewhere
- Get NICU nurses involved (already use CPAP in same hospital)
- Links with other district general hospitals in network already using CPAP
- Input from PICU link team
- Lead nurses/junior doctors
- Parent advocacy/patient stories

PDSA 1

Plan	Do
• Guideline revised and clarified • Suitable reference materials identified	• Meet with ward management team to run through and discuss training session plan
Study	**Act**
• Some areas of new guideline not clear • Need for reference materials for practicalities of setting up and troubleshooting machines –Individual nurses will not undertake this task frequently	• Unable to get whole team together at once • Shorter more focused discussions with individual team members carried out

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PDSA 2

Plan	Do
• Further discussions with senior nursing team – ward managers planned to visit adult respiratory wards for ideas	• Unexpected new issue – ward restricted to two patients in ventilatory support at any one time due to COVID infection control concerns (usually 6-8 at any one time over winter and would expect higher numbers after this change
Study	**Act**
• Infection control team very clear that negative COVID swabs would not affect the number of patients permitted to be on ventilatory support	• Discussion within consultant team • IDEA - patients with negative COVID swabs might not need to be included in the numbers

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PDSA 3

Plan	Do
• Extra doors to be installed to increase number of rooms with designated toilet facilities (capacity will remain well below normal) • Working group (consultants & senior nurses) to explore options to mitigate impact of new restrictions	• Visit adult wards where non-invasive respiratory support is also used • See if they have any helpful ideas and advice on how to manage alongside COVID restrictions
Study	**Act**
• Key limiting factor is the number of completely self-contained rooms (including toilet/washing facilities) to allow child and parent to be fully isolated from rest of ward	• Ward managers visited adult respiratory ward and met with their ward manager

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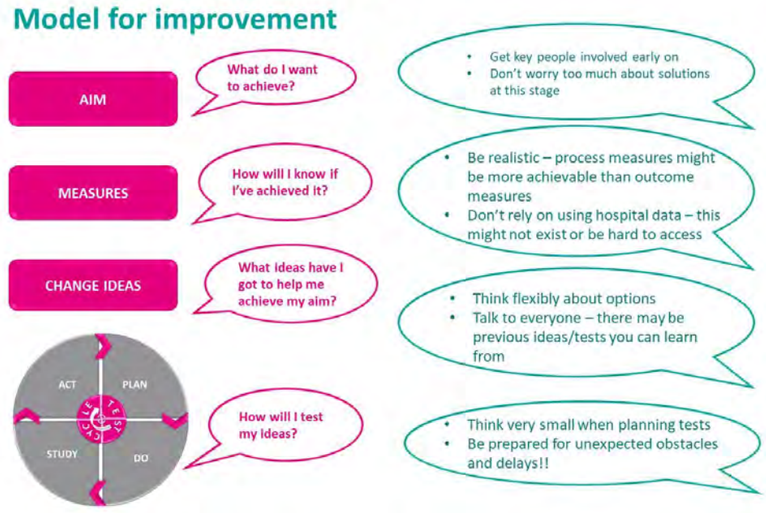
Dealing with challenge...

- Recent unexpected obstacle – new COVID restrictions will reduce the number of patients we are able to have on respiratory support to 2
- The ward often has 6-8 patients needing respiratory support over winter, and this project would increase numbers by reducing the number of babies transferred to other hospitals
- A working party has been set up and is urgently looking into solutions
- Watch this space...!

My reflections and learning

Model for improvement



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