**PDSA Cycle 1 – designing and piloting a solution**

**Aim:** what are you trying to accomplish?

1. Design and introduce a prototype system for Paediatric A&E
2. Gain feedback from A&E staff to ensure it is user friendly, effective and fit for purpose

**Plan:** what will your test be?

Verbal and written subjective feedback after 2 week trial period (conducted via staff meetings and questionnaires).

**Prediction:** what do you think will happen as a result of your test?

We will identify the key areas that need to be addressed from both nursing and doctor’s perspective to increase efficiency and safety of follow-up of outstanding microbiology results from Paediatric A&E. This should help us to refine our proposed solution before introducing it permanently.

**Do:** what happened when you carried out your test?

We held two departmental meetings and gained written feedback from the nursing and medical staff working in A&E. The staff were keen to help as they realised that this new system would save both time and money as well as improve patient safety. Involving staff in the designing process maximised their enthusiasm and support of the project and ensured the solution matched the problem.

**Study:** how did the results of your test compare with predictions?

Feedback was very positive and helped us to refine the system, and form layout, to ensure it was user friendly and would maximise uptake.

**Act:** how will you change your previous test in light of what you have learned?

Amended the system to address areas highlighted by the staff, most notably: accuracy, accountability and adequate clinical detail.

**PDSA Cycle 2 – implementing and testing our system in A&E**

**Aim:** what are you trying to accomplish?

1. Roll out our new system for full scale use in the Paediatric A&E Department
2. Test the efficacy of our intervention.

**Plan:** what will your test be?

Compare relative performance before and after our intervention. We will collect data using a 10 point quality assessment and compare the performance of the new and old systems over a two week period.

**Prediction:** what do you think will happen as a result of your test?

We hope our new intervention will improve efficiency and efficacy of chasing microbiology results for paediatric patients. In turn this will improve patient safety, save time and money and facilitate accountability.

**Do:** what happened when you carried out your test?

We collected data for 2 weeks comparing the performance of the old and new systems. We used a standardised 10 point assessment to compare the two systems. This was a blind test, the staff being assessed did not know their performance was being assessed.

**Study:** how did the results of your test compare with predictions?

Our results were very positive - the new system consistently outperformed the old system showing dramatic improvements in the amount and quality of data recorded. This in turn sped up the process, reducing delays and ensuring positive results were less likely to be missed.

**Act:** how will you change your previous test in light of what you have learned?

Replace the old system with the new improved system. Plan to implement similar systems to counter similar problems on the general paediatric ward and special care baby unit.

**PDSA Cycle 3 – adapting our system for ward and SCBU**

**Aim:** what are you trying to accomplish?

Adapt our new system for use on the general paediatric ward and in the special care baby unit (SCBU).

**Plan:** what will your test be?

Plan to recruit the nurses and junior doctors from general paediatric ward and SCBU, explain our effective intervention in A&E and adapt it for use on the wards and SCBU. We would use the experience and feedback of staff working in the environments to ensure the system is well suited for the different environments.

**Prediction:** what do you think will happen as a result of your test?

We hope to build on the success of our system in A&E and encourage the wards and SCBU to design and implement similar systems.

**Do:** what happened when you carried out your test?

Our ideas were very well received and both the ward and SCBU now have a novel system in place to chase outstanding microbiology results.

**Study:** how did the results of your test compare with predictions?

N/A

**Act:** how will you change your previous test in light of what you have learned?

Present our findings to encourage other to employ similar systems to improve the follow-up of microbiology results.