**VRIII PDSA Cycle [1]**

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

* Following baseline exploration of prescribing and knowledge a plan was developed to improve knowledge of prescribers. An audio-visual podcast was developed that explained the VRIII guideline and importance of appropriate fluid prescription in relation to patient biochemistry and renal function. The podcast visual components are available in the supplementary materials.

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

* We plan to deliver the audio-visual podcast during junior doctor teaching sessions and re-deliver a questionnaire to foundation year one and year two doctors across the Trust after viewing the audio-visual podcast to see if their knowledge has improved surrounding VRIII and the Trust specific guideline.

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

* We would hope to see a marked improvement in questionnaire scores following the podcast from the poor pre-questionnaire results, >80% to select the appropriate fluid as per the guideline.

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

* There was an improvement in junior doctor knowledge following the podcast.
* 75.8% of foundation doctors who had seen the podcast (n=34) selected the appropriate fluid for a patient scenario with normal renal function as per trust guidelines (40.4% pre-podcast)
* 54.5% of foundation doctors who had seen the podcast (n=34) selected the appropriate fluid for a patient scenario with poor renal function as per trust guidelines (11.5% pre-podcast)

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

* We were pleased to see an improvement in questionnaire scores following the podcast.
* The improvement was not as great an improvement as we had predicted, in particular with just over half the doctors selecting the correct fluid for the patient with renal failure, this was an improvement from11.5% initially pre-podcast.

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

* Many doctors did not know that the only version of the guideline was present on the insulin prescription chart, therefore we would like to develop an independent VRIII guideline for the intranet to explain the rationale behind supplementary fluid prescription with VRIII.
* We feel the podcast has had a positive effect on junior doctor VRIII prescribing knowledge so will continue to be shown at this at junior doctor teaching and we will make this available on the trust intranet for other professionals to view.

**VRIII PDSA Cycle [2]**

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

* PDSA 1 highlighted the need for clear guidance for prescribers around VRIII in the Trust. For PDSA 2 this was developed and launched in the Trust.

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

* Re-auditing prescription chart of patients on VRIII to see if they are prescribed the appropriate fluid for their biochemistry and renal function as per the Trust guideline following implementation of Trust Guideline.

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

* We would hope that prescription in practice has improved from our baseline measurement.
* We would expect >80% of prescriptions to have the correct fluid prescribed as per trust guidelines

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

* 63% of prescriptions had the appropriate supplementary fluids prescribed as per the trust guidelines, an improvement from 48% in the initial audit in January 2015.

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

* There was improvement with the VRIII prescription and supplementary fluid prescription but this was not as large and improvement as we had hoped.
* We feel our podcast and VRIII guideline have improved prescriber knowledge and this has transpired through to clinical practice although there is still room for improvement.

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

* We will continue to display the podcast at foundation doctor teaching as well as induction for new doctors.
* We will continue to emphasise access to the guideline on the intranet and mobile phone application.
* We presented our questionnaire results to the diabetes department including doctors, pharmacists and nursing team who felt the podcast should be promoted among all healthcare professionals to raise understanding of the guideline and its implication for patients.