

Table 3 PDSA tool for the test of change

Aim: To further improve patient outcomes and optimize healthcare

- First test of change: To expand the current ASP at NCCCR to include educational components to determine the best ways to address gaps and barriers to judicious antibiotic use (in particular proper documentation in healthcare records)
- Person responsible: Research team
- When to be done: After briefing on the results of phases 1 and 2 during medical rounds
- Where to be done: On-spot educational intervention at NCCCR during medical rounds

Plan:

- Tasks needed to set up this test of change: Repeat an antibiotic audit to be compared with results obtained from the pre-intervention phase
- Person responsible: Research team
- When to be done: After the educational intervention
- Where to be done: At NCCCR
- Predict what will happen when the test is carried out: Documentation will improve
- Measures to determine if prediction succeeds: Analyzing data using descriptive statistic

Do: What actually happened when we ran the test:

- Most practitioners were receptive to feedback and were keen to know about the results of the first phase of our study
- Some practitioners were conservative regarding the results
- Practitioners were willing to improve documentation in healthcare records

Study: Describe the measured results and how they compared to the predictions:

Phase 3: Tracking changes and outcome measures*

*Please refer to the results section

Phase 4: Qualitative thematic analysis

A. Facilitators and barriers for appropriate antibiotic prescribing and use

- Several components as perceived by the pharmacists interviewed served both as facilitators and barriers; These included: collaboration and communication among multidisciplinary teams, adherence and compliance to policies and guidelines
- An important facilitator agreed upon all pharmacist interviewed was the interventions done by them
- Another barrier discussed relates to some electronic system errors

B. Strategies to overcome barriers as recommended by pharmacists

- Educational sessions and morning reports to highlight upon continuous improvements in antibiotics' use and the benefits of consulting the AMS team
- Proper communication among multidisciplinary teams and healthcare providers
- Implementation of an official AMS policy to be adhered to
- Adherence to pre-approved local antibiotic policies and guidelines
- Having alternative antibiotic options in instances of drug shortages
- Online AMS training courses for involved healthcare members
- Campaigns to raise awareness regarding proper antibiotic prescribing and AMS

Act: Describe what modifications to the plan will be made for the next cycle from what you learned:

Targets for improvement

- The educational component as part of enhancing ASPs had to be assessed from the pharmacists' perspectives
- All pharmacists agreed that educational sessions and awareness campaigns are necessary and shall involve all multidisciplinary teams to be conducted by AMS experts on a regular basis regarding antibiotic use and prescribing in hospital settings
- All pharmacists thought that focus-group educational sessions are more useful than on-spot educational interventions during multidisciplinary rounds as teams change on a regular basis and it is better to educate all groups at once
- All pharmacists thought that this can be arranged during morning reports or by invitation to a private educational session
- All pharmacists do believe that the impact of education to overcome barriers takes time and changes to be seen and achieved require rigorous efforts from all healthcare members of the multidisciplinary teams