

Directors of Clinical Services Meeting

Réunion des directeurs des services cliniques

PIVOTS – Pacific Island Virtual Online Training in Surgery

PIVOTS was a 6-week course in collaboration with educational leaders at Fiji National University (FNU) and Monash Children's Stimulation (MCS) Centre facilitated by the Royal Australasian College of Surgeons (RACS) Global Health Pacific Island Project. This fundamentals of surgical practice course also utilised 10 laparoscopic surgical simulators that had been placed in 3 major FNU centres: Suva, Lautoka, and Labasa. A novel laparoscopic surgical curriculum platform using instrument tracking and metrics guided self-directed learning.

There were three components for the course, with one main hurdle task including live Zoom webinars, online learning with comprehensive surgical curriculum with summative assessment to consolidate and test knowledge acquisition, and hands on laparoscopic simulation skills training on the eoSim simulators via SurgTrac software at FNU locations followed by submission of assessment tasks for feedback (Hurdle).

There was excellent engagement of all the different domains of the surgical simulation including the online assessment and feedback platforms. Therefore, there should be further incorporation of this novel technology and other innovative educational techniques in the future.

1. BACKGROUND

The PIVOTS course was a 6-week pilot course conducted in a hybrid fashion with continuous hands-on bench-trainer sessions across 3 FNU sites in Fiji with 10 laparoscopic simulators, and virtual webinars and comprehensive online surgical curriculum learning delivered by Monash Children's Simulation (MCS). PIVOTS goal was to address the deficit that COVID-19 has caused on visiting teams providing education in low-resources countries such as Fiji and the Pacific Islands due to travel restrictions. The pilot was an accelerated project with the aims to deliver a solution to provide local trainees the opportunity to use surgical simulation-based education and virtual educational methodology with novel technology. It also provided targeted training for local Fiji FNU facilitators to further develop their skills in providing education using this novel intervention moving towards a sustainable educational system in the future. It was created to encourage continuous, self-directed, in-country practice without the reliance on visiting team of surgical educators.

2. PROGRESS AND ACHIEVEMENTS

PIVOTS was a 6-week course in collaboration with educational leaders at FNU and MCS facilitated by the RACS Global Health Pacific Island Project. A total of 60 participants from General Surgery and Obstetrics and Gynaecology were formally enrolled with an 82% (49/60) completion rate. The course consisted of a comprehensive learning management software platform consisting of the theoretical and practical components of surgical practice and laparoscopic surgical simulation. The three main components of the course included:

1. 4x Live Webinars via Zoom
2. Access to Online Learning materials followed by online summative assessment quiz to consolidate and test knowledge acquisition
3. Practice laparoscopic simulation skills on the eoSim simulators via SurgTrac software at FNU locations followed by submission of assessment tasks for feedback (Hurdle)

The laparoscopic surgical simulation utilised 10 laparoscopic surgical simulators that had been placed in 3 major FNU centres: Suva, Lautoka, and Labasa. A novel laparoscopic surgical curriculum platform using instrument tracking and metrics guided self-directed learning. The online learning was also supplemented with interactive webinars with live laparoscopic simulation. A total of 1274 core laparoscopic tasks including 87 hours of practice were performed by the participants. Of these 261 of these tasks were submitted for formal assessment, which equated to 19.5 hours of direct observation and feedback by the MCS faculty team. The course rated highly

with an overall rating of 8.9/10 (SD 1.8), which was consistently seen with all the different educational PIVOTS components (8.2-9.4/10). A significant difference was revealed in all the comparisons of the pre- and post- course self-rated Likert domains that were linked to the course intended learning objectives. The course was supplemented with an in-country visit and delivery of a MCS clinical educators' course which was well received (9.3/10, SD 0.9) to upskill local FNU educational leaders. The course was a success overall and future developments include incorporation into the regular FNU surgical diploma programme and expansion to other Pacific Island stakeholder countries. MCS is committed to working with national and international stakeholders in the setting of surgical education to improve the clinical outcomes in low resource settings by the provision of innovative and novel techniques and technologies in partnership with in-country colleagues.

3. CHALLENGES

3.1 Challenges and their management

Problems encountered included technical issues while enrolling participants to the SurgTrac software and timing for live webinars. SurgTrac issues were mitigated by quick turnaround responses for troubleshooting, created guidelines for accessing and submitting tasks and communicating with participants via emails ensuring that they can access, practice, and submit their tasks before the deadlines. Participants had a dedicated point of contact to easily email and receive assistance for troubleshooting SurgTrac issues.

Issues with timing of webinar sessions were mitigated early through active communication with the participants through emails and surveys. MCS also engaged with the FNU working group through weekly zoom meetings and WhatsApp group to raise and discuss barriers and hurdles that arose throughout the course of the project. As per the advice of the FNU working group, the second live webinar was held on Sunday afternoon. However, it was found that although the timing suited some of the senior staff, the timing was not ideal for the surgical trainees. Based on further evaluation (electronic survey poll) from the participants and advice from working group, the webinar was repeated on a weekday evening to allow more trainees to attend and participate.

During the initial meetings after delivery of simulators, it was raised to MCS that the obstetrics and gynaecology team had many participants interest in the PIVOTS course and their location was distant from the initial site of simulator setup. With effective communication and consultation with team leaders, it was quickly decided that the O&G team would also receive a set of bench

trainers and setup under their supervision and responsibility. This proved to be a good decision the O&G team had the most staff successfully completing the course.

Through participant feedback it was found that trainees were undertaking another course which coincided with the PIVOTS and thus participants found it slightly difficult to dedicate the time to view online theoretical material. MCS was able to extend deadlines within the timeline for SurgTrac submissions as well as the Moodle Quiz to accommodate and provide sufficient time to participants.

4. FUTURE DIRECTIONS

1. Incorporation of novel technologies and techniques to surgical education to mitigate the deficiencies that have been encountered with the COVID-19 pandemic. Hence providing access to excellence in surgical education throughout the year without the reliance of visiting surgical teams.
2. Focus on surgical education and maximising the improvements to patient care within the limitations of a low resources setting.
3. Engagement and partnership with local educators and clinicians are key to ensuring learner engagement and relevance.
4. Focused educational interventions with the aim of upskilling local faculty to improve the delivery of content should be a priority.
5. Staged implementation of the PIVOTS programme to all interested stakeholder Pacific Island countries to improve surgical education and hence delivery of surgical care.