

# Developing standards in Pacific Island countries: The Pacific perioperative practice bundle (Part 1)

## Authors

### Menna Davies

RN, MHLthSc (Nsg), GradDip Hlth Law, Cert Periop Nsg, Cert Sterilising Technology, FACN, FACORN  
Health Education & Learning Partnerships, Pty Ltd, Sydney, NSW

### Sally Sutherland-Fraser

RN, MEd, BEd (Adult Ed), Cert Periop Nsg, Cert IV TAE, MACN, FACORN  
Health Education & Learning Partnerships, Pty Ltd, Sydney, NSW

### Mabel Hazelman Taoi

BNS, GDip Bioethics, MPH  
Project Coordinator, Strengthening of Specialised Clinical Services in the Pacific (SSCSiP)

### Carollyn Williams

RN, MHLthSc (Nurs), FACN, FACORN  
Nurse Educator, Barwon Health, Victoria

This article is the first in a series that will describe a collaborative project between Australia and the Pacific Island Countries (PICs) to develop a set of infection prevention standards which are context-specific to “limited resource settings”, such as those found in PICs

## Introduction

Regardless of geographical location, a patient’s surgical outcome can be adversely affected by the development of a surgical site infection (SSI)<sup>1</sup>. The increase in mortality and morbidity, prolonged length of hospital stay and financial implications that are consequences of SSI can be positively influenced by effective infection prevention and control practices<sup>1</sup>. The development of evidence-based practice standards is a key strategy used to reduce the incidence of SSIs<sup>2</sup>. This strategy also facilitates the provision of high-quality health care for patients and ensures a safe working environment for staff<sup>3</sup>.

The first part of the series will detail the background to the project

to develop infection prevention standard, its aims and objectives, the teams involved in both Australia and PICs, the project plan and time lines, the concept of care bundles and use of audit tools. Part 2 will detail how the project was conducted, the collaborative process used to develop the standards and strategies for implementation.

## Background

The Pacific region is a large geographical area comprising more than 20 countries and territories<sup>4</sup>. Each perioperative service in the Pacific region has a different capacity to deliver surgical procedures<sup>5</sup>. Since 1995, the Royal Australasian College of Surgeons (RACS) has sent healthcare teams

to half of the PICs in the region to undertake surgical procedures and support healthcare services through its Pacific Island Program (PIP). These visits are designed to improve access to essential surgery and safe anaesthesia for the local populations and provide surgical training and education for local medical and nursing staff<sup>6</sup>. Feedback from a number of RACS visiting surgical teams had cited a scarcity of equipment and consumables and indicated a lack of consistency in the standards of perioperative nursing practice, as well as inadequate skill development and limited education programs for perioperative nurses.

In 2014, RACS sought assistance from the Australian College of Operating Room Nurses (ACORN) to address the education of nurses. The discussions were pursued by ACORN Fellow Carollyn Williams, who met with RACS personnel Lito de Silva, PIP Manager, and Helen Postma, Global Health, Medical Equipment Coordinator. An Australian Aid ('AusAid') funded program based in Fiji, the Strengthening of Specialised Clinical Services in the Pacific (SSCSiP) also initiated discussions with ACORN.

A key function of the SSCSiP program is to build capacity locally to meet the clinical service needs of the following 14 PICs: Cook Islands, Fiji, Kiribati, Federated States of Micronesia, Marshall Islands, Nauru, Niue, Palau, Samoa, Solomon Islands, Tonga, Tokelau, Tuvalu and Vanuatu<sup>7</sup>.

These discussions were informed by the World Health Organisation (WHO) "Safe Surgery Saves Lives" initiative<sup>8</sup> with SSCSiP seeking assistance for the development of practice standards, as well as competency assessment tools and education programs to support perioperative nurses in the PICs.

## Forming the team

By mid-2015, ACORN President Jed Duff had contacted Ruth Melville, President of the International Federation of Perioperative Nurses (IFPN) (and past President of ACORN), about the project. Jed then referred SSCSiP onto Sydney-based consultancy Health Education & Learning Partnerships (HE&LP) to explore the potential of such a project. SSCSiP Project Coordinator, Mabel Hazelman Taoi briefed HE&LP consultants Menna Davies and Sally Sutherland-Fraser about the background issues, project goals and time lines. Menna and Sally brought extensive experience to the project as perioperative nurses and education consultants, and both had participated in RACS' PIPs, providing them with first-hand experience of the perioperative settings and challenges for nursing practice in PICs. In addition, the combined experience of Menna Davies and Carollyn Williams, with their involvement in the ACORN Competency Standards validation projects<sup>9,10</sup>, had given them an awareness of the complexities and scale of competency development projects. It was felt that coordinating such processes and managing the personnel required to reach a consensus across diverse Pacific locations would not be achievable within the project budget or time line. After some consideration, Menna and Sally recommended that SSCSiP's initial proposal to develop competency standards and assessment tools might be suitable as a future separate project.

The HE&LP consultants proposed focusing on a single goal of developing a small number of perioperative standards which, by contrast, was considered achievable within the project budget and time line. Following discussions

with several senior perioperative nurses in PICs, the development of perioperative standards relating to infection prevention was identified as a priority. SSCSiP then selected a team to represent the PICs for this collaborative project together with HE&LP.

Initial discussions about forming the team in PICs included the Director of Clinical Services (DCS) and Heads of Nursing from the 14 PICs. Twelve of the Heads of Nursing and/or DCS nominated a perioperative nurse as the focal person to receive and initiate discussions on the standards (Table 1). In addition to the in-country review, a technical working group was also convened to discuss the applicability of the standards to the Pacific context. PICs were selected based on the level of perioperative services that the health facility was able to provide in-country:

- Kiribati represented the smaller island states that were able to deliver basic surgical procedures;
- Tonga represented slightly more complex levels of surgery; and
- Solomon Islands and Fiji represented larger hospitals with the capacity to provide more complex surgeries. Fiji was represented by a larger contingent, with a senior nurse each from the three major hospitals: a senior nurse with a PGCert in Perioperative Nursing, and two senior lecturers from the Fiji College of Nurses.

The nurse representatives needed five or more years of experience in the operating room to be eligible for the technical working group. Through this process, nine nurses were selected from the final four PICs participating in the technical working group reviewing the care bundle.

Country	Representative
Fiji	Dolores Hill
Fiji	Latileta Mataitini
Fiji	Vane Matakece
Fiji	Faga Mua
Fiji	Mere Toroca
Fiji	Sofaia Waqaniborotu
Kiribati	Helen Murdoch
Solomon Is	Dency Saohu
Tonga	Talosia Vakata
SSCSiP	Mabel Hazelman Taoi

**Table 1: Technical working party representing the PICs**

## Literature review

The HE&LP consultants undertook a literature review focusing on care bundles for infection prevention and practice audits in healthcare.

## Care bundles

The concept of care bundles was first developed in the United States in 2001 by the Institute of Healthcare Improvement (IHI) as part of a successful initiative to improve patient outcomes in critical care<sup>11</sup>. A care bundle is defined as a group of structured, evidence-

based practices, generally four or five that function as a cohesive package, simplifying decisions, promoting goal-oriented care, reducing omissions and errors<sup>2</sup>. When performed collectively and consistently, care bundles have been shown to improve patient outcomes<sup>12</sup>. The effectiveness of the care bundle comes from the strength of the evidence on which they are based and the consistency with which they are performed<sup>2,3,11,12</sup>. Tanner and colleagues<sup>13</sup> conducted a meta-analysis of care bundle effectiveness to reduce SSIs for colorectal surgery patients. These authors pooled the results of 13 studies, reporting a statistically significant reduction in the risk of SSI ( $P=0.0005$ ) when surgical care bundles were implemented, compared with standard surgical care<sup>13</sup>. A small Australian study of care bundles for colorectal surgery patients<sup>14</sup> reported clinically important improvements with infection rates but also acknowledged there were difficulties in reaching compliance with practice. Although the bundle concept has a number of demonstrated advantages related to improved

patient outcomes, as identified above, Camporota and Brett<sup>12</sup> identify several barriers, namely a lack of knowledge and resources, both physical and human, with which to implement the standards. The HE&LP consultants were mindful of these findings when developing the draft practice standards, and included rationales for each standard to facilitate end-users' understanding of the theory and the practical application of each principle.

## Auditing clinical practice

Auditing is a safety and quality process used by healthcare services working within a clinical governance framework to determine regulatory compliance<sup>15</sup>. It has many important applications in healthcare, such as providing a baseline or 'snapshot' of current practice, measuring workplace or individual compliance with standards and policy and identifying areas of practice that require improvement<sup>16</sup>. The authors of a recent UK study retrospectively audited 91 operation notes to measure surgeons' compliance with the RACS Best Practice Surgical guidelines<sup>17</sup>. Following a simple intervention of "audit and feedback" and education about the guidelines, Whitehead and colleagues<sup>17</sup> repeated the documentation audit and noted an increased used of electronic records and improvements in compliance rates with the guidelines. "Audit and feedback" has been described as an efficient way to summarise clinical performance over a discrete period of time<sup>18</sup>. A Cochrane Systematic Review of more than 100 studies reported that "audit and feedback" had a capacity to improve clinician performance and compliance with practice standards, which the authors suggest may explain why it has become a widespread quality improvement



**Members of the the technical working group**

strategy in healthcare settings<sup>18</sup>. A recent update of this review reported that the greatest improvements with practice standards were observed when clinician compliance rates were poor at baseline<sup>19</sup>. As this project was initiated to address reported inconsistency in Pacific perioperative practice standards, this particular finding influenced the team's decision to include audit and feedback as part of the project design.

## Project aim and objectives

The primary aim of the project was to develop a bundle of infection prevention standards to improve consistency of perioperative practice across the PICs. A secondary aim was to develop practice audit tools for each of the standards. These tools were designed to measure baseline compliance with the practice standards prior to their implementation and to evaluate compliance post implementation. Objectives for the project, together with responsibilities and time frames were agreed between SSCSiP and HE&LP as follows:

- identify the practice standards for inclusion in the infection prevention care bundle;
- develop a standards framework and review tool for feedback on the draft standards
- identify and circulate relevant resources to assist with development and review of draft standards;
- select key Pacific contacts for the Expert Panel Pacific Island Countries (EPPIC) to review the draft standards;
- coordinate activities with PICs and establish consensus; and

- circulate the final care bundle and audit tools to PICs and other key stakeholders.

## Project plan and time lines

With ACORN's support for the project aims, permission was given for the team to use the *ACORN Standards* as the foundation of the work. While the principles underpinning the evidence-based *ACORN Standards* are universally important, the HE&LP consultants knew from experience that the *ACORN Standards* were not universally practical or achievable in poorly resourced facilities found in many PICs. The HE&LP consultants had participated in RACS' Pacific Island Program surgical and education teams which had identified issues with perioperative practice standards. The HE&LP consultants were also aware of the challenges that Pacific perioperative nurses faced as a result of limited health budgets, ageing infrastructure and unreliable access to equipment and medical supplies. Such challenges are a feature of working in "limited resource settings"<sup>20</sup>. The consultants therefore looked for practice standards that acknowledged the limitations and challenges present in PICs to supplement the *ACORN Standards* which, by contrast, are developed for well-resourced Australian healthcare settings. This process identified the potential of the IFPN guidelines to meet this need. The individual IFPN guidelines relating to infection prevention were sourced from the Asian periOpeRative Nurses Association (ASIORNA) website and these were mapped to the applicable *ACORN Standards*<sup>21</sup>. This process was used to identify and then refine the minimum practice standards for perioperative nurses that might be implemented successfully as a care bundle into the diverse and "limited-resource settings" of the PICs.

Following discussions with Mabel Hazelman Taoi and the PIC team, a small bundle of standards covering the fundamental elements of infection prevention that would meet the PIC's needs was agreed. The six standards were given the collective title of the Pacific Perioperative Practice Bundle (PPPB) and comprised the following standards:

PPPB 1 — Hand Hygiene

PPPB 2 — Perioperative Attire

PPPB 3 — Aseptic Technique

PPPB 4 — Protective Apparel

PPPB 5 — Scrubbing, Gowning and Gloving

PPPB 6 — Skin Preparation of the Patient

The team worked within a tight time line from October to December in 2015. The practicalities of working with team members spread across several countries and time zones were addressed with a combination of good technology, good coordination and good humour. Three review cycles were scheduled for the draft standards (Figure 1). The HE&LP consultants developed a two-part feedback tool for each standard, for PIC reviewers to record comments of a specific and general nature. In Part 1, reviewers were asked "Where you read something in the draft standard that you think cannot be performed in your workplace: Write the exact page number and line numbers for this part of the standard; [and] Write your feedback and suggestions that will improve this part of the standard". In Part 2, reviewers were asked to provide general comments in three categories: "Not good — unhelpful"; "Unsure — could be better"; and "Good — helpful".

The SSCSiP project coordinator established good lines of communication with the PICs to

ensure effective distribution of information and files and ensure timely responses. SSCSiP also managed the PIC review processes and facilitated a three-day meeting for the working party in Fiji, which included two video-conference calls with the HE&LP consultants in Sydney. These calls brought the team together 'face to face', albeit via the internet. This strategy provided a forum for the team's questions, enriched the overall discussion and ensured prudent management of the project budget. The video-conference calls also ensured that the HE&LP consultants were able to clarify and explain the principles and rationales in each of the draft standards, and describe how the feedback tools were to be used during the review process. For each review cycle, the SSCSiP project coordinator synthesised the comments, suggested additions and deletions that were recorded on the feedback tools and collated this for email return to the HE&LP consultants in Sydney. Each review cycle had a short turnaround time, making the cooperation of all stakeholders vital to the success of the project. In Sydney, the HE&LP

consultants reviewed the collated feedback and made amendments accordingly in preparation for further review and finalising the six standards in the care bundle. An example of an audit tool was also circulated for feedback prior to preparation of audit tools for each of the six standards. There was obvious commitment from the review team to reach a consensus on the care bundle and audit tools in order to commence their use in the clinical settings across PIC.

## Conclusion

This first article has described the background, aims and objectives for the collaborative project to develop a care bundle of standards for infection prevention for PICs. There was careful consideration of the needs of the perioperative environments within PICs and how to adapt existing evidence-based standards for limited resource settings. In the second article, the development of the care bundle will be detailed, highlighting the collaborative processes. The article will also describe the development of the audit tools and strategies for implementation and compliance.

## Acknowledgements

The practices outlined in the individual standards were developed with reference to the Australian College of Operating Room Nurses (ACORN) *Standards for Perioperative Nursing, 2014–2015* and the International Perioperative Nurses Federation (IFPN) Guidelines (Note: The IFPN Guidelines were accessed from the website of the Asian periOperative Nurses Association<sup>22</sup>. We acknowledge the support and guidance provided by the respective Presidents, Dr Jed Duff (ACORN) and Ruth Melville (IFPN). The development of the care bundle and audit tools could not have occurred without the commitment and enthusiasm of the representatives from the PICs and the leadership of SSCSiP project coordinator, Mabel Hazelman Taoi.

## References

1. Wilson J. How to reduce the risk of surgical site infections. *Nurs Times*. 2015;111(38):12–16. [www.nursingtimes.net/download?ac=1310036](http://www.nursingtimes.net/download?ac=1310036) Accessed 7 April 2016.
2. National Health and Medical Research Council (NH&MRC). Australian guidelines for the prevention and control of infection in healthcare C1.5.1 Care bundles; 2010. [www.nhmrc.gov.au/book/australian-guidelines-prevention-and-control-infectionhealthcare-2010/c1-5-1-care-bundles](http://www.nhmrc.gov.au/book/australian-guidelines-prevention-and-control-infectionhealthcare-2010/c1-5-1-care-bundles) Accessed 9 March 2016.
3. Australian Commission on Safety and Quality in Health Care (ACSQHC/the Commission). National Standards and Accreditation; 2015. Retrieved from [www.safetyandquality.gov.au/our-work/national-standards-and-accreditation](http://www.safetyandquality.gov.au/our-work/national-standards-and-accreditation)
4. Britannica Online. Pacific islands; 2015. [www.britannica.com/place/Pacific-Islands](http://www.britannica.com/place/Pacific-Islands) Accessed 3 April 2016.
5. Royal Australasian College of Surgeons. Pacific island countries; 2015a. [www.surgeons.org/for-the-public/racs-global-health/pacific-island-countries/](http://www.surgeons.org/for-the-public/racs-global-health/pacific-island-countries/) Accessed 9 March 2016.
6. Royal Australasian College of Surgeons. RACS global health; 2015b. [www.surgeons.org/for-the-public/racs-global-health/](http://www.surgeons.org/for-the-public/racs-global-health/) Accessed 9 March 2016.
7. Strengthening Specialised Clinical Services in the Pacific Program. About us web page; 2016. [www.sscsip.org/about-us/](http://www.sscsip.org/about-us/) Accessed 4 April 2016.

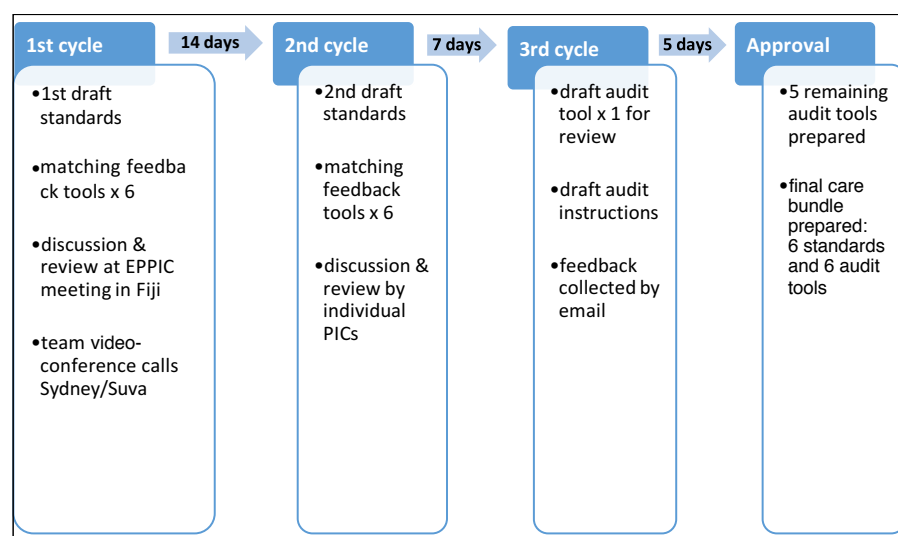


Figure 1: Project review cycle conducted between October to December 2015

8. World Health Organisation. WHO guidelines for safe surgery: Safe surgery saves lives; 2009. [www.who.int/patientsafety/safesurgery/tools\\_resources/9789241598552/en/](http://www.who.int/patientsafety/safesurgery/tools_resources/9789241598552/en/) Accessed 27 March 2016.
9. Hilbig J. Validation of ACORN competency research project report. Adelaide: ACORN; 1999.
10. Williams C, Hill V. Review of competency standards for perioperative nursing. ACORN Journal. 2007;20(2):22–23,25–33.
11. Resar R, Griffin FA, Haraden C, Nolan TW. Using Care Bundles to Improve Health Care Quality. IHI Innovation Series white paper. Cambridge, Massachusetts: Institute for Healthcare Improvement; 2012. [www.ihio.org/Pages/default.aspx](http://www.ihio.org/Pages/default.aspx) Accessed 27 March 2016.
12. Camporota L, Brett S. Care bundles: implementing evidence or common sense? Crit Care. 2011;15(159). (2 pages) DOI:10.1186/cc10232. [www.ccforum.biomedcentral.com/articles/10.1186/cc10232](http://www.ccforum.biomedcentral.com/articles/10.1186/cc10232) Accessed 7 April 2016.
13. Tanner J, Padley W, Assadian O, Leaper D, Kiernan M, Edmiston C. Do surgical care bundles reduce the risk of surgical site infections in patients undergoing colorectal surgery? A systematic review and cohort meta-analysis of 8,515 patients. Surgery. 2015;158(1):66–77. [www.dx.doi.org/10.1016/j.surg.2015.03.009](http://www.dx.doi.org/10.1016/j.surg.2015.03.009) Accessed 31 March 2016.
14. Bull A, Wilson JM, Worth LJ, Stuart RL, Gillespie E, Waxman B. A bundle of care to reduce colorectal surgical infections: An Australian experience. J Hosp Infect. 2011;78(4):297–301. DOI: 10.1016/j.jhin.2011.03.029 [www.researchgate.net/publication/5121119\\_A\\_bundle\\_of\\_care\\_to\\_reduce\\_colorectal\\_surgical\\_infections\\_An\\_Australian\\_experience](http://www.researchgate.net/publication/5121119_A_bundle_of_care_to_reduce_colorectal_surgical_infections_An_Australian_experience) Accessed 31 March 2016.
15. Australian Commission on Safety and Quality in Health Care (ACSQHC). National Safety and Quality Health Service Standards: Standard 1: Governance for Safety and Quality in Health Service Organisations; 2012. [www.safetyandquality.gov.au](http://www.safetyandquality.gov.au) Accessed 31 March 2016.
16. Lockwood B, Warwick V, Sutherland-Fraser S. Perioperative patient safety. In Hamlin, Davies, Richardson-Tench, Sutherland-Fraser (eds). Perioperative nursing: An introduction, 2nd edn. Sydney: Elsevier; 2016, pp. 47–73.
17. Whitehead-Clarke T, Varma N, Hadjimichae A, Gillham F, O'Brien K. Improving operation notes and postoperative care: an audit of current practice. J Periop Pract. 2015;25(5):107–111.
18. Jamtvedt G, Young JM, Kristoffersen DT, O'Brien MA, Oxman AD. Audit and feedback: Effects on professional practice and health care outcomes. Cochrane Database Syst Rev. 2006; Issue 2, Art. No.: CD000259. DOI:10.1002/14651858.CD000259.pub2.

**CONGRESS 8<sup>th</sup>**  
**EORNA**  
 THE COLOSSUS OF PERIOPERATIVE NURSING  
 4 - 7 MAY 2017 Rhodes Island, GREECE

Rodos Palace International Convention Centre

Deadline for **ABSTRACT** submission  
 June 1<sup>st</sup> 2016

[www.eornacongress.eu](http://www.eornacongress.eu)

CONGRESS SECRETARIAT ERA Ltd. 17, Askilpiou str. | 106 80 Athens - Greece  
 Tel.: (+30) 210 36 34 944 | Fax: (+30) 210 36 31 690 | E-mail: info@era.gr | Website: www.era.gr

19. Ivers N, Jamtvedt G, Flottorp S, Young JM, Odgaard-Jensen J, French SD, O'Brien MA, Johansen M, Grimshaw J, Oxman AD. Audit and feedback: Effects on professional practice and healthcare outcomes. Cochrane Database Syst Rev. 2012; Issue 6. Art. No.: CD000259. DOI: 10.1002/14651858.CD000259.pub3. [www.onlinelibrary.wiley.com/doi/10.1002/14651858.CD000259.pub2/abstract;jsessionid=97E7908609AC395772C063E1729D3B54.f03t04](http://www.onlinelibrary.wiley.com/doi/10.1002/14651858.CD000259.pub2/abstract;jsessionid=97E7908609AC395772C063E1729D3B54.f03t04) Accessed 31 March 2016.
20. Tietjen L, Bossemeyer D, McIntosh N. Infection prevention guidelines for healthcare facilities with limited resources. Baltimore, Maryland: JHPIEGO Corporation; 2003. [www.reprolineplus.org/](http://www.reprolineplus.org/) Accessed 31 March 2016.
21. Australian College of Operating Room Nurses. (ACORN). Standards for perioperative nursing. Adelaide: ACORN; 2014.
22. Asian periOperative Nurses Association (ASIORNA). Other guidelines web page (IFPN); 2011. [www.asiorna.org/html/board/list.php?board=14](http://www.asiorna.org/html/board/list.php?board=14) Accessed 7 April 2016.