Implementing standards in Pacific Island countries: The Pacific perioperative practice bundle (Part 2)

This article is the second in a series that describes the a collaborative project between Australia and the Pacific Island countries (PICs) to develop and implement a set of infection prevention standards which are context-specific to 'limited resource settings', such as those found in PICs.

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Introduction

In the previous article, 'Developing standards in Pacific Island countries (Part 1)'[1], the authors described a collaborative project undertaken over 12 months between a team of perioperative nurses, representing 14 Pacific Island countries, and Australian education consultants. The project was facilitated by Strengthening Clinical Services in the Pacific (SSCSiP – funded by the Australian government) and aims to establish optimum standards of practice for perioperative nursing care in the Pacific. The project grew from the strong foundation of the latest practice standards with the support of the Australian College of Perioperative Nurses (ACORN). The initial outcome of the project was the development of a 'practice bundle' of six evidence-based standards for infection prevention with matching audit tools to determine practice compliance within Pacific operating theatres. The practice bundle was developed over three review cycles between October and December 2015. These are the first perioperative standards developed specifically for the Pacific Islands. The six standards are:

- 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.

In this article, the authors describe the most important outcome of the project thus far, the implementation of these six standards. A range of strategies has been employed as part of the project implementation phase beginning with a four-day workshop in Fiji, facilitated by SSCSiP and Australian education consultants, and followed by local implementation programs. This article describes the preliminary outcomes of these strategies and provides an insight into the project team members' journeys from 'knowledge to action'.

The Pacific perioperative practice bundle (PPPB) implementation workshop

The development and dissemination of the PPPB was the result of a successful collaboration between representatives of 14 PICs (see Table 1), SSCSiP and Australian education consultants. All members of the project team recognised that implementing sustainable changes in clinical practice would be challenging, particularly for facilities with smaller staffing establishments and with limited access to resources. The PPPB Project Coordinator for SSCSiP, Ms Mabel Hazelman Taoi, identified that while many of the nurses contributing to the project were highly experienced clinicians they lacked experience as clinical auditors and in the use of audit tools.

Cook Islands	Palua
Fiji	Samoa
Kiribati	Solomon Islands
Micronesia (Federated States of Micronesia)	Tonga
Marshall Islands (RMI)	Tokelau
Nauru	Tuvalu
Niue	Vanuatu

Table 1: Pacific Island countries involved in developing the PPPB

Another challenge was the nurses' knowledge gaps in the area of change implementation and knowledge translation. To address these challenges and meet the immediate educational needs of the PIC representatives, Ms Taoi organised a four-day PPPB implementation workshop. The workshop was held in Fiji and prioritised the following objectives:

1. to review the background to the PPPB
2. to explore the rationales and principles underpinning the standards
3. to consider the practicalities of conducting practice audits in a diverse range of busy clinical settings
4. to identify implementation strategies to support the transition from 'knowledge to action', with the expectation that each representative would leave the workshop with a draft implementation plan for their workplace and their country.

The Australian arm of the project team, education consultants Ms Menna Davies and Ms Sally Sutherland-Fraser, were invited as workshop facilitators and also presented part of the workshop. Their attendance was funded by SSCSiP and ACORN. SSCSiP also provided copies of the Australasian textbook *Perioperative Nursing: An Introduction* (2nd edition) for each of the PIC representatives at the workshop as permanent resources for their hospitals.

A total of 20 nurses, representing the 14 PICs, attended the workshop in August 2016. Fiji had additional attendees, in view of the number of facilities in Fiji and the workshop being held 'in-country'. There were perioperative nurses, instructors and academics amongst the attendees,

Workshop set text:	*Perioperative Nursing: An Introduction* (2nd edition)
The practice bundle:	• six PPPB Standards • six PPPB Practice Audit Tools • Practice Audit Instructions
Reference material:	• journal article: 'Developing standards in Pacific Island Countries: The Pacific perioperative practice bundle (Part 1) by Menna Davies, Sally Sutherland-Fraser, Mabel Hazelman Taoi and Carollyn Williams in *Journal of Perioperative Nursing in Australia* (Vol. 29(2) pp. 42–47). • Pacific perioperative practice bundle (PPPB) project report • presenters notes and slide handouts for webinar: 'Knowledge to action' presented by Dr Jed Duff • online article 'What is clinical audit' by NHS UK University Hospitals Bristol Clinical Audit Team (2009). • list of ACORN webinars relating to infection prevention practices

Table 2: Workshop materials provided to workshop attendees in advance

with a wide range of perioperative experience ranging from 12 months to 24 years. A number of the nurses were part of the original working party involved in developing the PPPB while others were less familiar with the standards. In preparation for the workshop and to bring everyone 'up to speed' on the newly developed practice bundle, SSCSiP distributed the workshop materials, in both hard copy and electronic versions, to each of the PIC representatives in advance (see Table 2 above).

The first day of the workshop provided the opportunity for the group to get to know one another and each attendee presented their country profile on operating room staffing, facilities and the 2015 surgical case-load. The smallest facility was reported as having only ten beds with one operating theatre, while the largest facility was reported as having more than 500 beds with eight operating theatres and 60 nurses. The program for the first day also enabled the group to review the workshop materials in detail and to watch the relevant ACORN webinars, including 'Infection prevention' and 'Perioperative attire'. The project team was grateful to ACORN for making the webinars available to attendees during the workshop week.

Ms Davies and Ms Sutherland-Fraser arrived on day two of the workshop and, following introduction to the group and presentations of the perioperative textbook, gave an overview of the development of the practice bundle. As the main aim of the workshop was to identify and explore implementation strategies for the practice bundle, workshop attendees participated in a live webinar from Sydney, 'Knowledge to action', presented by then ACORN President, Dr Jed Duff. Dr Duff provided an overview of the gap between evidence and practice in health care and explained the importance of 'knowledge transfer' when implementing change in health care facilities. The main points of the webinar were:

- Generating knowledge has the potential to affect the health system in many positive ways[2]. New knowledge does not always translate into practice[3] nor does

it always lead to improvements in practice.

- The concepts of 'knowledge transfer' and 'knowledge translation' have emerged as potential solutions to the slow uptake of knowledge and the evidence-to-practice gap.
- These concepts underpin the 'Knowledge to action' framework, developed in 2001 by a group of Canadian researchers and clinicians working in the field of implementation science[4].
- The use of audit and feedback is one strategy in the framework that can help clinicians engage with the evidence (i.e. observational audit data) and identify where changes to practice might improve performance and patient outcomes.
- Further reading and downloadable resources are available online from the Knowledge Translation Clearing House (ktclearinghouse.ca/knowledgebase/ktinhealthcare).

Dr Duff's overriding message for the group was to 'walk it, talk it, try it'.

Following the webinar, the workshop facilitators led a discussion on the themes of Dr Duff's webinar and facilitated small group work where participants identified enablers and barriers to implementing change within their own workplace (see Table 3).

Enablers	Barriers
• staff motivation to change practice to promote safe patient care • support from colleagues in PIC • skills and knowledge of current staff • resources provided at workshop	• time limitations • lack of access to education resources • availability of PPE equipment • staff inexperience • resistance to change

Table 3: Enablers and barriers to implementing change identified by workshop participants

This led to much enthusiastic discussion, and key implementation strategies were identified. These included:

- meeting with hospital managers, informing them about the outcomes of the workshop and seeking support for implementing the PPPB
- identifying colleagues who can become fellow 'champions' to promote the PPPB
- organising in-service sessions to educate staff about the PPPB
- encouraging staff to develop and display posters about the key elements of the standards (e.g. with awards for the best poster).

Menna Davies and Mabel Hazelman Taoi facilitating small group work

Over the next two days the group concentrated on reviewing the rationales and principles of each of the six infection prevention standards. This prompted much discussion and allowed attendees to clarify some aspects of the standards and how they would be implemented in their workplace. As each standard was reviewed, the auditing process was also discussed and the audit tools for each standard were examined in detail. Although some participants were experienced auditors and had already commenced practice audits in their facilities, auditing was a new process for many participants. Experienced auditors shared their experiences, which was encouraging, and showed the group the value of auditing and how practice can be changed as a result. A detailed discussion of the audit tools proved to be valuable groundwork for the practical sessions that concluded the third day of the workshop.

Developing the auditors' observational skills

On the third day, the group was divided into two to rotate through two practical sessions. The first session was a facilitated practice audit, walking through the operating suite and referring to printed copies of the audit tools for PPPB 1 Hand hygiene and PPPB 2 Perioperative attire. These two standards were

	Competency assessment	Practice audit
Purpose:	to check ability (Can you do it?)	to check compliance (Are they doing it?)
Subject:	individuals	group, teams, workplace
Evidence:	a combination of direct, indirect and supplementary evidence	direct evidence (observation of practice or documentation of practice i.e. audit of patient records and charts)
Timing:	specified assessment time	multiple observations at a variety of times and days over a period of time
Applications:	to evaluate training to identify learning deficits to measure outcomes of education programs	to check compliance to improve practice to change management

Table 4: Differences between competency assessment and practice audit

selected because they applied to all staff being observed during the walk-around. This ensured the group would observe a large number of perioperative practices and potentially increased the likelihood of observing different levels of staff compliance with those practices. For example, some hand basins were equipped with hand-wash but no hand towels. In a few instances there was no hand-wash and at some scrub sinks the hand-wash dispensers were broken. Some staff had secured their caps and their face masks correctly, while others wore caps without completely covering their hair or wore their face masks incorrectly below their nose or around their neck.

Workshop participants gowning up for a facilitated practice audit

Many attendees were experienced nurses, familiar with competency assessments. The facilitated practice audit was therefore also an opportunity to explore the differences between the conduct of a competency assessment and that of a practice audit (see Table 4). Competency assessment requires a set of performance criteria to make judgements about the ability and practice of one staff member at one point in time, while a practice audit requires a set of standards to collect information about the level of compliance of a group of staff, or all staff in the department, over a period of time.

The other half of the group used the relevant audit tools while watching a selection of video clips sourced from online perioperative educational programs. The video clips were about specific clinical practices, for example, aseptic technique; protective apparel and scrubbing, gowning and gloving. The aim was to familiarise the group with using the audit tool and also improve their observation skills in collecting relevant evidence. By working with the audit tools, the groups were able not only to identify practical issues with the tools but also to recommend amendments to ensure the tools would function effectively at local facilities.

To further hone observation skills, the group was asked to count the number of times a specific action occurred in a selection of videos. In acknowledgment of Fiji winning its first Olympic medal for rugby sevens, these videos included rugby games played between Pacific Island countries and the group was asked to count the number of completed passes between specific players. This observation exercise was met with a great deal of enthusiasm and friendly rivalry between groups. It also

generated an acknowledgement that focus and concentration would be required for the accurate collection of data, regardless of the practice setting or clinical context.

Future collaboration

Sessions on the final day of the workshop focused on the need for effective teamwork and communication skills when implementing changes in clinical practice and the formation of a Pacific perioperative nurses society to enable further collaboration and collegiality amongst the perioperative nurses of the Pacific. This was suggested as a potential future aim for the group and, with this aim in mind, attendees participated in a live webinar from Sydney, facilitated by ACORN Education Officer, Dr Paula Foran.

During the webinar, Ms Phyllis Davis (Nurse Manager, Randwick Campus Operating Suite, Sydney) discussed her experiences establishing the Papua New Guinea Perioperative Nurses Society (PNG PNS). Prior to the workshop, Ms Davis had provided the SSCSiP with a recently revised edition of Toolkit for Start-up Specialist Nursing Organisations, a resource she co-authored in 2005 with Ms Kate Woodhead, a UK-based perioperative nurse consultant and founder of Friends of African Nurses. Ms Davis offered practical advice and encouragement to the group regarding the formation of a perioperative nurses society or association for the Pacific Islands.

Attendees expressed a commitment to remain in contact with each other following the workshop to consider the formation of a perioperative nurses group and to start planning for a local forum in 2017 to share their experiences of and what they had learnt from implementing the PPPB. The workshop concluded with an energising and keenly contested quiz with teams of attendees demonstrating their retention and understanding of the workshop content. The workshop facilitators departed Fiji confident that the PIC representatives possessed sufficient enthusiasm and knowledge to begin the implementation phase of the PPPB within their own facilities.

Implementation progress and preliminary outcomes

While progress with implementation varies across the PICs, many strategies identified during the workshop have been successfully implemented. These include:

- writing up reports and presenting briefings to hospital management
- delivering presentations to colleagues
- developing posters and other visual aids to remind staff of practice points.

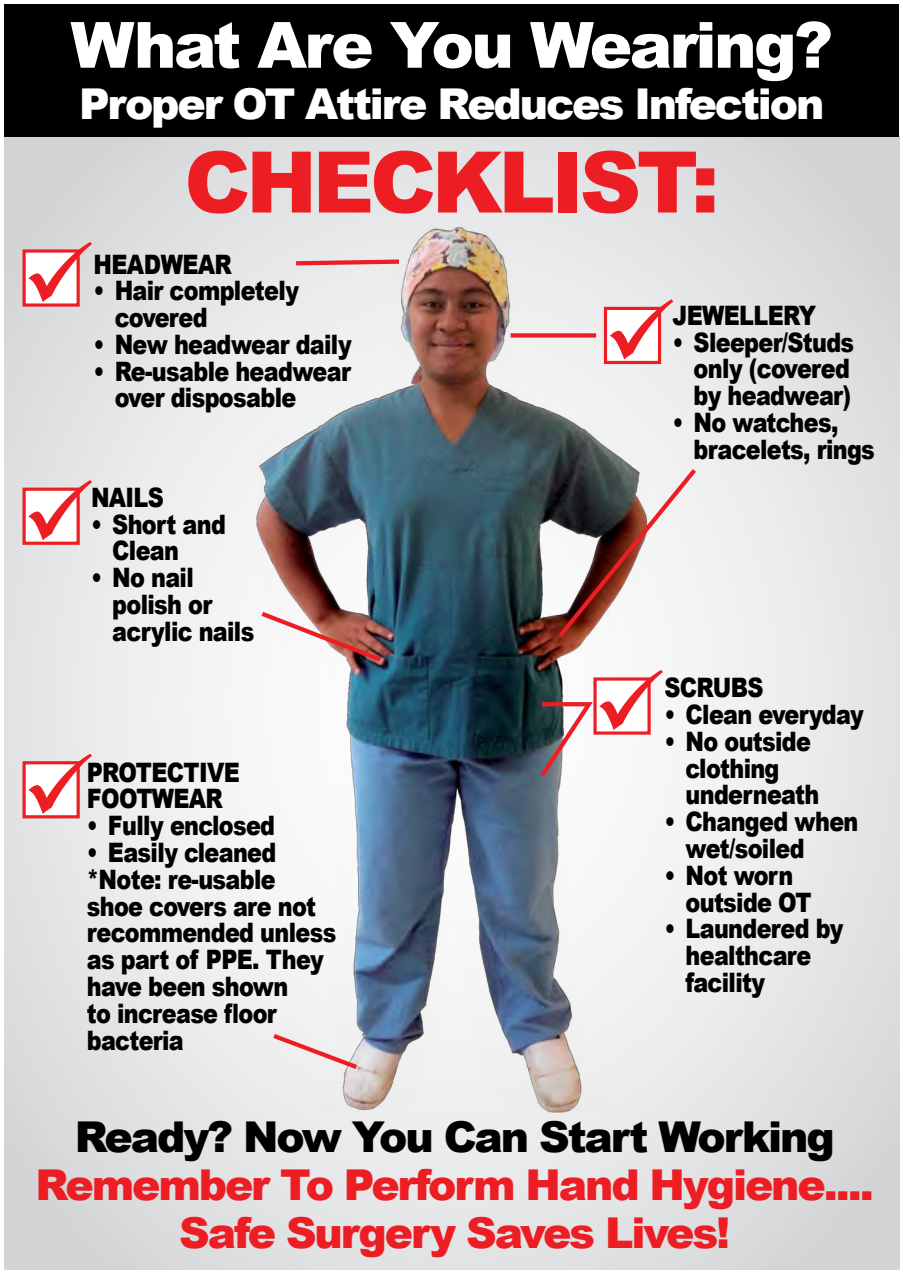
There have been some reports of practical challenges faced when implementing the PPPB locally, including:

- the need for additional time to be allocated for the practice audits
- the unpredictable availability of hand hygiene supplies
- limited access to appropriate protective apparel.

Many of these challenges had been identified during the workshop as potential barriers to implementation.

Overall, however, the PPPB is being implemented across the Pacific Islands with preliminary outcomes reported to the project team. For example, a number of local managers have made it mandatory for all perioperative staff to read each of the six standards in the practice bundle and to sign-off on completion of this requirement. To facilitate this strategy, the six standards and practice audit tools have been made widely accessible to staff in tearooms and on notice boards. PIC representatives have also reported high levels of interest in the project from their medical colleagues. In addition to this, there are reports of many practical changes that have been implemented including routine re-ordering of alcohol hand rubs, re-supply of protective eye wear and sourcing of appropriate footwear for perioperative staff. Strategies such as these, which replace the ad hoc supply of these important resources,

Operating theatre staff of the Tupua Meaole Hospital, Samoa



Poster developed by staff at the Tupua Meaole Hospital, Samoa

have the potential to support the nurses in their pursuit of effective practice change.

PPPB implementation in Samoa and the Solomon Islands

The following section of this paper describes the process of implementing the PPPB and preliminary outcomes in Samoa and the Solomon Islands.

Samoa – Tupua Tamasese Meaole Hospital, Apia

Senior nurse specialist, Ms Natasha Mamea, harnessed the strong team spirit in the operating theatres at Samoa's national hospital when developing her education and implementation strategies for the PPPB. Following briefings and pre-tests of knowledge, nursing staff were encouraged to study each of the six standards in the PPPB and were motivated to do well in post-tests as part of an in-house competition with awards for the top team. Compliance with the standards was set with a mandatory requirement for sign-off and review for individuals at their annual appraisal. The greatest engagement with the standards came when the staff were allocated to four teams and set an end-of-year target for compliance. Teams developed a number of posters to remind staff about the finer practice points in the standards including the demarcation of zones for perioperative attire, the correct process for contaminated theatre scrubs (highlighting the risks of home-laundering) and the benefits of clipping the hair around surgical sites if required, instead of shaving.

Aseptic technique had the highest level of compliance before the audit and compliance with perioperative attire improved towards the end of the staff training. Implementing the PPPB has motivated staff to work in groups with the common aim of improving performance. Recognition of this improved performance has, in turn, motivated the staff to participate in continuous monitoring of practice change. Ms Mamea describes an example of the capacity of nurses to engage with senior clinicians in discussions about practice change as follows:

> I assisted one of our Fijian-trained obstetricians in an emergency lower segment caesarean section early Friday morning. I asked her if they were taught about draping when they were trained and she agreed [they were taught to drape outwards from the operative site]. Then I told her, "but you never came back and told us [local nurses] about it, and you never practised it yourself". She laughed. I then approached the obstetrics and gynaecology consultant and told her about the need to change

the draping technique and she totally agreed.

Solomon Islands – National Referral Hospital, Honiara

A number of strategies have been used to inform and educate the perioperative nursing staff at the National Referral Hospital (NRH), beginning with presentations for the continuous education program. The perioperative nurse instructor, Ms Nerrie Raddie, presented one practice standard per week for six weeks, assisted by Ms Densy Saohu who represented the Solomon Islands at the PPPB development workshops during 2015 and 2016. Ms Raddie describes the results below:

> I've put the standards where all our nurses have access. This includes the textbook that was given [to PIC representatives] at the workshop in August. I've witnessed our nurses taking time to read and understand, because not all nurses are present during our Friday presentations. Even one of our nurses doing the bachelors program at our university used these standards for their group's audit, and they've done an excellent job indeed... their lecturer was very pleased and grateful such standards are in place. There's a sign-off sheet provided in the PPPB file as well, for nurses to sign when they've read through the standards.

In addition, Ms Raddie and Ms Saohu have been working one-on-one with the nurses during clinical procedures to support them with the practical application of the standards. For example, the circulating nurse may need to be reminded about maintaining sterility when handing over extras to the instrument nurse and about monitoring the aseptic field during operations to avoid actions like 'flipping'. This use of reminders during real clinical practice has been the most effective implementation strategy at the NRH. It has empowered the nurses to 'walk it, talk it and try it' for themselves. Not only are the nurses becoming advocates for the standards, they are also developing as role models for the multidisciplinary team.

According to Ms Raddie:

> Nurses have become aware of what's in place for measuring practice, and they [stand] by their knowledge of the PPPB. Below are examples of nurses [reminding colleagues] about the standards:
>
> - a nurse saw a doctor coming out from the operating room hungry, and walking straight to [the tea room] to get his lunch. The nurse then kindly asked, "Excuse me doctor, have you washed your hands yet?" The doctor thanked the nurse for reminding him.
> - a staff member was reminded to put on his cap and mask properly [according to the PPPB]
> - a staff member was reminded to scrub for three minutes as subsequent and five minutes for the first scrub of the day
> - the instrument nurse reminded the anaesthetic doctor not to bend over the aseptic field while handing over local anaesthetic.
>
> This has made me feel really proud and confident that our standards will improve our practice.

The second arm of implementation at the NRH was the practice audit program that started in November when one of the project consultants was in Honiara for the South Pacific Nurses Forum. This provided an opportunity for a facilitated walk through the operating theatres with the audit tools, enabling the nurse instructor and project consultant

Sally Sutherland-Fraser with NRH OT Nurse Manager Janet Wate at the 18th South Pacific Nurses Forum (SPNF), November 2016

to observe a range of perioperative practices. This identified potential challenges to compliance with the PPPB such as unreliable power, limited access to supplies and equipment and an ageing hospital infrastructure at the NRH. Often the hospital laundry is unable to meet the demand for clean linen including theatre scrub suits. In response to the short supply, home laundering has become a common practice. Staff members are now aware through the PPPB education and audit program that home laundering is not a recommended practice and have been alerted to the potential risk of infection for themselves and their family. They have been empowered to seek a more practical and permanent solution to the laundry and are now awaiting the installation of a departmental washing machine.

Despite such challenges, there have been rapid improvements in compliance of all staff with covering hair and wearing face masks since the education program began. The preliminary data from the practice audits also suggest improvement in hand hygiene (PPPB 1), a reduced

incidence of 'flipping' when opening sterile supplies (PPPB 3), increased attention to aseptic technique during scrubbing procedures (PPPB 5) and a higher level of compliance overall with perioperative attire (PPPB 2).

Promoting the project within the Pacific

In November 2016, the 18th South Pacific Nurses Forum (SPNF) was held in the Solomon Islands. The project team viewed this as the most appropriate professional and educational event to promote the project to other health care workers in the Pacific region, Australasia and beyond. It also presented an opportunity for project team members to attend with many of their perioperative colleagues. The Solomon Islands was well represented with the national hospital administration making it possible for a large number of nurses to attend including the nurse manager and staff from the operating theatres.

An ACORN financial assistance grant made it possible for Ms Sutherland-Fraser to attend and co-present the conference paper with Ms Taoi. During the busy week of the forum, the pair also made two visits to the operating theatres at the NRH to facilitate some practice audits with the nurse instructor and to provide the nurses with further education on the PPPB. The visits also provided an opportunity to answer questions and encourage the nurses to keep up the momentum.

Conclusion

The implementation phase of the project is making good progress in many facilities, with successes enthusiastically shared amongst the PICs. According to Ms Anawaite Naivalulevu Qerewaqa, Clinical Supervisor Operating Theatre at Lautoka Hospital in Fiji:

> We are already working on our pre-audit tools and it is progressing well in our different shifts. We have identified our champions/team leaders. As for the PPPB we were glad that we had already presented before the workshop because we will be presenting again, together with the audit tools, due to the demand from the OR nurses – a very good sign as we are all geared up and looking forward to moving to our new operating rooms soon. This is where we are all planning to strengthen, uphold and maintain all of the PPPB and the audit tools.
>
> I wish every one well in continuing to shine the periop torch. MAKE A DIFFERENCE.

Sharing strategies and success stories such as these has encouraged others experiencing challenges in changing practice to continue their efforts. Ms Taoi, Ms Davies and Ms Sutherland-Fraser continue to mentor the group, encouraging them to find and mentor champions within their workplaces to ensure that the changes made can be sustained.

Later in 2017 there are plans to organise a local forum in Fiji, with representatives from PICs, where progress of PPPB implementation can be shared. This forum will be another opportunity to continue discussions about the formation a PIC professional association. A further aim will be to present a paper at the 2018 ACORN & ASIORNA International Conference in Adelaide to showcase the outcomes of the project.

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