

# Evaluation of the Clinical Support Program, Papua New Guinea

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*Strategic input on health to the Australian Government*

**Specialist  
Health  
Service**

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## Executive Summary

### Background

The PNG Clinical Support Program (CSP) began as an AUD 5.95 million, three-year program (October 2018 to October 2020) to enhance the quality of care at ANGAU Memorial Provincial Hospital (AMPH), complementing Australia's significant investment in the hospital's infrastructure redevelopment. The CSP investment design extended this broad objective to also support capacity building at Port Moresby General Hospital (PMGH) and enhancement of specialist training at the School of Medicine and Health Sciences (SMHS), in recognition of the long-standing Australian Government support for both these institutions.

The Royal Australian College of Surgeons (RACS) managed the CSP from 2018 to 2019 (Phase 1). Management of the CSP then transitioned to Johnstaff International Development (JID) from 2020 until now (Phase 2). The implementation of Phase 2 of the program was impacted by COVID-19 first in Australia (impacting supply of Australian clinical expertise) and then in PNG.

### Methodology

This evaluation was guided by the CSP Monitoring and Evaluation (M&E) framework developed and presented in the *PNG Clinical Support Program - Investment Design Document*. The M&E framework itself is underpinned by a Program Logic. The M&E Framework requires evaluation effort at all levels of the Program Logic - inputs/activity (implementation), outputs (effectiveness) and outcomes (impact).

When possible, a mixed methods approach to data collection and analysis was adopted. This required quantitative measurement of the achievement of outputs and outcomes. Quantitative data was supplemented by qualitative data (perceptions, observations) collected through document review, a short survey of training participants and consultations with stakeholders in Australia and PNG (Lae and Port Moresby). In summary, data collection included:

- Document review (text data)
- A short survey via SurveyMonkey, delivered by hand to some participants in PNG
- Analysis of program implementation data (quantitative data)
- Consultations (qualitative data)
- Selected case studies (narrative data)

### Findings

**Relevance** The CSP program design was drafted in 2018. Despite its drafting over five years ago, it remains highly relevant to the broad needs of PNG health. Notwithstanding retaining its relevance, during Phase 1 and then increasingly during Phase 2, the focus on the five outcomes and the associated outputs contained in the original investment design was lost. During Phase 2, this seemed to be a more deliberate attempt to focus implementation on complementing the infrastructural redevelopment of AMPH and played a key role in achieving on-time commissioning of those wards scheduled in 2021/22.

Until recently, there has been less focus on PMGH and SMHS. Outcomes that include activity at PMGH and SMHS likely remain relevant but need to be revisited.

*Implementation* The onset of COVID-19 in March 2020 meant that the face-to-face trainings and mentoring could not take place due to global travel restrictions. Consequently, the staff of AMPH, and other training participants had to navigate learning through an online platform or through remotely delivered training. Participants and trainers agreed that, while not optimal, enough support was provided to ensure positive learning experiences. Prior to the onset of COVID19 implementation was slow and hampered by not enacting governance arrangements outlined in the investment design.

*Effectiveness* The impact of CSP on outputs (increased clinician skills and improved practice) and outcomes (improved quality of services and outcomes of patient care) were difficult to measure due to the lack of data collected corresponding to the program M&E Framework. Nonetheless, clear indications of the effectiveness of the CSP include on-time commissioning of the state-of-the-art infrastructure at AMPH; development of an effective Emergency Department Triaging Tool; increased number of deliveries of babies compared to previous years; increased infant survival in special care nursery; and increased presence of male partners in the birthing centres of AMPH. JID's on the ground presence and local networking was a major contributing factor in these achievements.

*Efficiency* During Phase 1, poor use of available inputs to achieve the desired/program outputs and delayed implementation reduced efficiency. In Phase 2, despite the need to pivot to a largely remote delivery strategy, efficiency increased. The tighter focus in Phase 2 on AMPH commissioning targets also likely contributed to increased efficiency. Several doctors and senior nurses at AMPH were identified and trained to deliver training under the CSP, which engendered greater efficiency than the continued use of only Australian trainers.

*Impact* One of the biggest gaps of both Phase 1 and 2 of the CSP initiative was the non-adherence to the M&E Framework and the failure, therefore, to capture program impacts. As such, it is challenging to accurately assess the impact of the CSP to date.

*Sustainability* During Phase 2, each learning process has been well documented by JID and has the potential to be replicated in other hospitals. However, if the CSP gains are not institutionalised within the local health systems through local partnerships, this progress could be lost. Sustainability has been impacted by the failure to establish a solid governance arrangement.

The development of PNG local training resources (clinical leaders) has created potential for sustainability of future clinical training activity. The persistent shortage of staff has, however, undermined ongoing use of these resources for training.

*Gender equality, disability and social inclusion* Participants in training and other CSP interventions were predominantly female. This was determined through the gender disaggregated data collected from CSP activities. There was no data collected on change in gender in leadership positions. There was no evidence that the GEDSI framework had been applied to capacity building for persons with a disability, or that there were systems and processes for promoting GEDSI in the CSP. In the JID CSP team, there was strong women's leadership with skills and expertise matching global standards.

## Recommendations

Based on the evaluation findings, the following recommendations should be considered for future investment in the CSP in PNG:

- 1 In any future phases of the CSP, there needs to be a greater emphasis on collaborating with partners to better govern the CSP, strengthen accountability mechanisms and to deliver on program outcomes. This should involve establishing the governance arrangements stipulated in the original investment design or revised governance arrangements tailored to the current context. For example, the involvement of WHO (especially relevant technical experts) and more PHA representation could better support the current decentralised service delivery arrangements in PNG.
- 2 In the design of a future phase of CSP, the design team should review the original investment design and determine what remains relevant, what needs to be discarded, and what new outcomes are required (relevance). This review should be undertaken in consultation with key stakeholders, ideally operating within a newly established governance arrangement (see above)
- 3 A new investment design should include a new Monitoring, Evaluation and Learning (MEL) Framework and ensure the program is adequately resourced and funded to strengthen rigour around MEL. Implementation of a baseline survey and a stronger and more uniform commitment to objective measurement of outputs and outcomes will be essential to demonstrate CSP effectiveness and impact. The managing contractor should develop an overarching MEL Framework to guide all evaluation efforts - even if individual sub-contractors have their own MEL plan - and support ongoing robust MEL throughout implementation
- 4 Any future investment will need a **stronger focus on GEDSI**. GEDSI considerations need to be fully integrated into the new design and MEL framework and be properly resourced. This should include a strengthened focus on gender equality in clinical leadership positions and a more structured approach to reducing barriers to participation in CSP interventions related to gender equality and disability. The MEL Framework should have a clear requirement for disaggregated data to be collected on participation in CSP activities by gender and [physical and intellectual] disability and outcomes of participation in leadership roles
- 5 Ongoing support for yet to be commissioned components of AMPH into the newly completed infrastructure, including the surgical and medical wards, in the same way as already commissioned facilities were supported (relevance, implementation)
- 6 Develop an appropriately staffed and equipped Training Department at AMPH to ensure that the current appetite and capacity for training at AMPH is sustained (sustainability)
- 7 Develop CSP interventions to address the competence needs of biomedical support, hospital administration, information management (medical records administration and coding), facilities management, and hotel services (relevance, effectiveness, sustainability)

- 8 Facilitate local clinical specialists being able to 'step up' and play a greater leadership role in the capacity building of the PNG health workforce by alleviating constraints upon them (the result of workforce shortages) to act more strategically. Strategies to free up clinical leaders can be developed with CSP stakeholders (sustainability)
- 9 Identify proven effective examples of capacity building at AMPH that could be replicated in other provincial hospitals, or to the wider PNG health system, and develop mechanisms to make this happen. This will likely require building on and leveraging relationships with UPNG and PMGH to incorporate content into existing curricula or developing new formal course options (sustainability).

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## Acronyms

Acronym	Description
ACEM	Australasian College for Emergency Medicine
ACORN	Australian College of Perioperative Nurses
ADB	Asian Development Bank
AMPH	ANGAU Memorial Provincial Hospital
ANZICS	Australian and New Zealand Intensive Care Society
APLS	Advanced Paediatric Life Support
BASIC	Basic Assessment and Support in Intensive Care
CHW	Community Health Worker
CoHELP	COVID-19 Healthcare E-Learning Platform
COPD	Children's Outpatients Department
CORF	Commissioning Operational Readiness Framework
CSEP	Comprehensive Strategic and Economic Partnership
CSP	Clinical Support Program
DFAT	Department of Foreign Affairs and Trade
EC	Emergency Care
ED	Emergency Department
EMC	Evaluation and Monitoring Committee
EOC	Essential Obstetric Care
EoPOs	End of Program Outcomes
EmOC	Emergency Obstetric Care
EMST	Emergency Management of Severe Trauma
GEDSI	Gender equality, disability and social inclusion
GIC	Generic Instructor Course
HECS	Health Education and Clinical Support Project
HHISP	Health and HIV Implementation Services Provider
HSSDP	Health Services Sector Development Program
IITT	Interagency Integrated Triage Tool
ISDP	Integrated Suite of Development Program
JID	Johnstaff International Development
KHS	Kumul Helt Skul
LMS	Learning Management System
M&E	Monitoring and Evaluation
MONAHP	Medical Officers, Nurses, and Allied Health Professionals Project
MOPEC	Monash Online Paediatric Essentials Course
MOTP	Medical Officers and Nursing Training Project
MSSP	Medical School Support Program
NDoH	National Department of Health
NHSS	National Health Service Standards
PATH	PNG-Australia Transition to Health
PGDEM	Post-Graduate Diploma of Emergency Medicine

Acronym	Description
PHA	Provincial Health Authority
PLS	Paediatric Life Support
PMGH	Port Moresby General Hospital
PNG	Papua New Guinea
PRTF	Patient Registration and Triage Form
PTC	Primary Trauma Course
RACS	Royal Australian College of Surgeons
SCN	Special Care Nursery
SMHS	School of Medicine and Health Sciences
SOPs	Standard Operating Procedures
TB	Tuberculosis
THS	Tertiary Health Services Project
TWG	Technical Working Group
UPNG	University of Papua New Guinea
UTS	University of Technology Sydney
WHO	World Health Organization
WHOCC UTS	WHO Collaborating Centre at the University of Technology Sydney

## 1. Introduction

### 1.1. Background

The PNG Clinical Support Program (CSP) began as a AUD 5.95 million three-year program (October 2018 to October 2021 and is continuing into 2023) to enhance the quality of care at ANGAU Memorial Provincial Hospital (AMPH), complementing Australia's significant investment in the hospital's infrastructure redevelopment. The CSP also supports capacity building at Port Moresby General Hospital (PMGH) and enhancement of specialist training at the School of Medicine and Health Sciences (SMHS), in recognition of the long-standing Australian Government support for both these institutions.

Australia has long demonstrated on-going support of clinical workforce development in PNG. This support extends back to 1987 under the Medical Officers and Nursing Training Project (MOTP) and the 1995-2000 Medical Officers, Nurses, and Allied Health Professionals (MONAHP) Project. These projects were followed by various phases of the Tertiary Health Services Project (THS) through the 2000s, that were in turn followed by the Medical School Support Program (MSSP) and the current Health Education and Clinical Support (HECS) Program.

The CSP was designed to take an integrated and comprehensive approach to strengthening clinical capacity in PNG by drawing on institutional partnerships with specialist Australian medical colleges, the World Health Organization (WHO) Collaborating Centre for Nursing, Midwifery and Health Development and other partners. Through the CSP, medical and other clinical specialists from Australia and PNG were to be engaged to provide clinical upskilling and other professional development.

Upon commencement in 2018, CSP was managed by the Royal Australian College of Surgeons (RACS). Since 1995, RACS has been involved, formally or informally, in the delivery and/or management in nearly all the programs mentioned above. Following a rapid review in December 2019, the managing contractor for CSP was transitioned from RACS to Johnstaff International Development (JID).

### 1.2. Country context

PNG is one of Australia's closest neighbours, with a long-shared history. The relationship is transitioning from a donor-recipient relationship to a partnership based on mutual economic and strategic interests, supporting PNG to use its own resources more efficiently and effectively, and building strong bilateral relationships based on trust and understanding.

PNG has the lowest life expectancy in the Pacific region, due to the high burden of infectious diseases and, increasingly, by non-communicable diseases. High maternal and infant mortality rates prevented PNG from meeting the Millennium Development Goals in 2015. The population of PNG is young with a median age of 22.4 year, and is estimated to be more than eight million and growing rapidly.

There are challenges with both the quantity and quality of PNG's health workforce. The SMHS trains all cadre of health care workers, including specialist doctors in all specialties except oncology, some specialist nurses, and other 'allied health' professionals. Limited resources impede the capacity to

deliver the necessary graduate supply. In addition, the quality of health workers is influenced by the challenge of remaining up to date with changing knowledge, technology, and clinical practice.

The goal of the CSP is the improved health status of patients and catchment populations of AMPH and PMGH. The objectives of the CSP include an enhanced quality of care at AMPH and PMGH, increased specialist training at the SMHS, and a full utilisation of AMPH's redevelopment. There are five end-of investment outcomes (see section 4.1.1, below).

### 1.3. Purpose of this evaluation

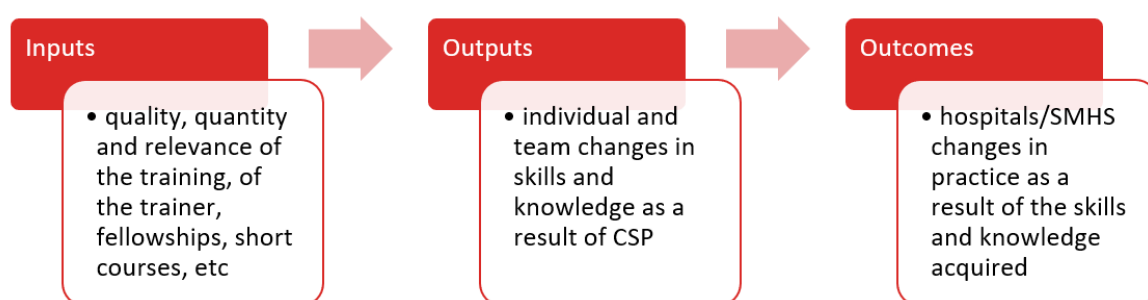
The purpose of this evaluation is to assess achievements and identify lessons learned from the current CSP to inform DFAT's future support for clinical services in PNG. The specific objectives of this evaluation were:

1. To assess implementation of the CSP from 2018 to 2021:
  - Assess the extent to which the CSP objectives have been met
  - Assess annual budget projections against annual expenditure
  - Identify barriers to effective implementation of CSP
2. To make recommendations to DFAT on future clinical support for PNG clinicians, in line with the PNG National Health Plan, CSEP and DFAT's Health Portfolio Plan.
  - Identify and make recommendations for a re-focused approach for future CSP implementation.

## 2. Methodology

### 2.1. Approach

This evaluation is guided by the CSP Monitoring and Evaluation (M&E) framework developed and presented in the *PNG Clinical Support Program - Investment Design Document*. The M&E framework highlights the need to assess the CSP at all three levels of the Program Logic as shown below:



The focus on **inputs** (the implementation of designed activities) is essential since poorly implemented programs are unlikely to achieve the planned outcomes. The evaluation relies primarily on data collected during implementation of CSP activities.

This summative evaluation placed equal focus on **outputs** and **outcomes**, making a judgement as to whether the program demonstrated sufficient relevance; effectiveness; efficiency; impact; sustainability; and integration of gender, disability and social inclusion (GEDSI) considerations. This

required quantitative measurement of the achievement of outputs (for instance, increased levels of skill) and outcomes (for instance, an improvement in hospital standards) by comparing baseline and post-program measurements. However, these measurements were not available (see findings section on 'Measurement').

Quantitative data was supplemented by qualitative data (perceptions, observations) collected through document review, a short survey of training participants and consultations with stakeholders in Australia and PNG (Lae and Port Moresby). Accordingly, the evaluation data was obtained through a mixed methods approach including:

- Document review (text data)
- A short survey via SurveyMonkey, delivered by hand to some participants in PNG
- Analysis of program implementation data (quantitative data)
- Consultations (qualitative data)
- Selected case studies (narrative data)

A mixed methods approach was taken in the analysis of data collected during the evaluation. The different data sources provided sufficient triangulation, strengthening the interpretation of findings and providing confidence in the conclusions.

## 2.2. Evaluation Questions

The evaluation questions were set out in the Terms of Reference for the evaluation project. The questions were revised based on review of the CSP Monitoring and Evaluation Framework and the Program Logic (see Annex F in the investment design document).

- **Relevance:** Did the CSP investment focus on the right issues to increase the quality of training at AMPH, PMGH and SMHS? That is, were the designed inputs appropriate for achieving the desired outputs and outcomes?
- **Implementation:** Were there expected/unexpected changes in the broader PNG or health context that affected program implementation (for instance the global pandemic)? Were the program management and governance arrangements appropriate in supporting delivery?
- **Effectiveness:** What did the CSP investment achieve? To what extent were the designed outputs and outcomes achieved? What were the major factors influencing the achievement or non-achievement of the outcomes?
- **Efficiency:** Were the intended CSP outputs achieved in the most efficient way? Were project inputs and activities achieved in a cost efficient and timely way?
- **Impact:** What has happened as a result of the CSP investment? Has progress been made towards designed outcomes? Were there any unintended consequences?
- **Sustainability:** Will the benefits of the CSP investments be sustained in the years following the cessation of CSP? Which factors constrained/facilitated sustainability of the intended outcomes following the cessation of the CSP?
- **Gender equality, disability and social inclusion:** How was GEDSI integrated into the program? Was there any evidence on how clinicians used GEDSI framework to approach capacity building? Were there processes and systems to promote GEDSI by CSP?

These evaluation questions underpinned the development of data collection tools (e.g., interview tools) and guided the drafting of the evaluation report.

## 2.3. Data collection

### 2.3.1. Document review

Several documents were provided by DFAT and implementing partners for review. The list of documents is provided in Annex A.

The reviewed documents fell into three discrete content areas:

- **CSP Program Documents** (design, rapid review and reports). These documents outlined the initial intentions of the CSP and the background, rationale and assumptions underpinning the original program design. They provided a baseline and a history of the implementation of the program, including both poorly- and well-implemented elements, and any implementation constraints
- **DFAT Bilateral Program Strategies, Policies and Plans** for example, Partnerships for Recovery, CSEP, Health Portfolio Plan, Safeguard Policies on gender, disability, and other cross-cutting considerations. These documents provided important context for the implementation and relevance of the CSP. They offered a strong benchmark against which to assess the extent the CSP program implementation aligned with the original outcomes and remained consistent with broader DFAT policy priorities.
- **Relevant PNG health, hospital workforce policies plans, strategies and projections and identification of links to CSP**. These documents supported an understanding of how the CSP related to the broader context of PNG Government priorities pertaining to delineated service delivery, universal health care, health workforce aspirations and infrastructure intentions.

### 2.3.2. Program implementation data

The two managing contractors, RACS and JID, provided the Evaluation Team with access to reports included in the M&E framework. The RACS report, '*Papua New Guinea Clinical Support Program (PNG CSP) End of Program Report, 31 March 2022*', provides some quantitative data on CSP activities, including Clinical Support and Mentoring; Training, Scoping and Mentoring; Conference Attendance; Program Management; and Equipment Procurement. The reports from JID, 'Clinical Support Program Phase 2; Supporting data at July 2022 – achievements and highlights' and 'Deployment of Clinicians to PNG - Final Summary Report' covered various aspects of the JID implementation phase.

The Evaluation Team was also able to access reports from sub-contractors that added value and further detail to the reported figures from RACS and JID, which were analysed for the evaluation.

### 2.3.3. Participant survey

A short survey was administered to CSP training participants as a back-up in the event planned face-to-face interviews during in-country consultations became too challenging following the general elections in PNG. The survey tool was administered primarily by JID in PNG to participants of CSP training at AMPH and other facilities. Survey participants were able to respond by completing a hard copy survey (and returning to JID) or by responding through a link to an online survey platform (SurveyMonkey). Just over half of all respondents submitted a hard copy, with the remainder completing the survey online. Hard copy surveys were entered into the online platform by the Evaluation Team. The survey tool is provided as Annex B.

In total, 26 survey responses were completed (see Table 1 for a description of the respondent population). In summary, survey participants were mostly older, females and registered nurses, reflecting the workforce that was targeted through CSP initiatives. Over 50% of the participants have been in the same position for over 10 years.

**Table 1: Descriptive Table of Survey Participants**

Gender		Age Range		Health Occupation		Time Spent in Role		Mode of Response	
Female	Male	Years		Medical Specialist	5	<1 year	1	Online	11
20	6	0-24	1	Doctors in Training	5	1-2 years	3	Manuel	15
		25-34	5	Registered Nurse	11	2-3 years	1		
		35-44	7	CHW	5	5-10 years	7		
		45-54	13			>10 years	14		
		55-64	0						
		65+	0						

#### 2.3.4. Consultations

Semi-structured interviews formed a central part of the data collection with a range of key stakeholders in PNG.

Based on consultation with DFAT, key categories of stakeholders interviewed included:

- **NDoH** – including members of the Executive Team, Chief Medical Officers, HR planning, persons responsible for specialist services and specialty associations, registration authorities and data/performance monitoring and research section.
- **AMPH** – Chief Executive Officer, Director of Medical Services and Nursing, different Medical and Nursing division heads and staff, JID managers and its staff and the Commissioning manager for AMPH
- **PMGH** – including the Chief Executive Officer, Directors of Medical Services and Nursing and specialist clinicians and nurses
- **SMHS** – including Dean of the School, Heads of Faculties and Divisions, especially those who have had contact with CSP specialists
- **DFAT** – including Counsellor, Health Security Program, and the local program managers
- **Other implementing partners** e.g., World Health Organization

These interviews were largely conducted in person during a visit to PNG from 29 August to 02 September 2022. A list of interviewees (individuals and groups) is provided in Annex C.

In Australia, a range of other key informant interviews were undertaken with the following:

- Royal Australasian College of Surgeons
- Other Australasian Medical Colleges/Societies
- WHO Collaborating Centre for Nursing, Midwifery and Health Development
- Burnet Institute of Medical Research
- Monash University

A list of persons consulted in Australia is provided in Annex D.

Although in-person consultations were preferred, given the short time frame in PNG, some key interviews were followed up remotely. Interviews with Australian based stakeholders were undertaken remotely, except for those stakeholders located in Sydney. Interview notes were the

primary means of capturing interview content, with a few interviews also recorded with permission from each interview subject. Recordings were not transcribed but used primarily as a check on the accuracy of notes. Written notes were compared and verified between the Evaluation Team members as soon as practicable after each interview. A copy of the interview schedule is provided in Annex E of this document.

Key informant interviews were approximately one hour in duration. Where appropriate, small group discussions were undertaken in lieu of individual interviews.

### 2.3.5. Relevant Change Story

To explore the success of CSP in generating cross-cutting competencies, two successful change stories were recorded, both focused on AMPH.

- The survival of low-birth-weight babies in Special Care Nursery
- The reduction of waiting time in the Emergency Department.

The stories captured ethnographic type data collection, interviews, and observations, around a selected area of clinical practice. The purpose of the change/success story was to find and document qualitative evidence of transfer of capability from those who directly participated in capacity building interventions to others within the relevant clinical service context.

Change stories were selected according to the participant's change in clinical practices and the overall outcome in clinical services, and to represent a 'vertical' and a 'horizontal' context. An example of a vertical context was capacity building in Neonatal Life Support (NLS), where the capacity building initiative undertaken by different types and levels of health worker then impacted more broadly on the ability of AMPH to fully utilise its redevelopment. An example of a horizontal context was the capacity building which traversed tertiary and primary care (for instance in child and maternal health) to improve referral efficiency to the hospital.

The change stories reflected the effectiveness and efficiency of interventions delivered, and provided greater insight into program enablers, inhibitors and outcomes.

## 3. Limitations and constraints

The limitations and constraints related to this evaluation include:

1. **Interrupted data collection process:** The review commenced in May 2022 but due to several issues (visa delays, election-related security concerns) the Evaluation Team could not enter PNG until late August 2022. This meant that the document review and interviews of Australian based stakeholders were dislocated from the in-country consultations. The Evaluation Team overcame this issue by reviewing notes prior to commencing the in-country consultations.
2. **Short timeframe in PNG and access to key stakeholders:** The in-country consultations were conducted within a compact timeframe, which limited the team's ability to conduct an in-depth exploration of the CSP. However, the team were able to consult with most of the relevant stakeholders while in-country and to obtain the required information.



## 4. Findings

### 4.1. Relevance of the CSP focus

#### 4.1.1. Program direction

The CSP Monitoring and Evaluation Framework in the Investment Design (Annex 8 in the Investment Design Document) provided details on the goals, outcomes and indicators to be used to monitor the program, as well as the baseline data/information to be collected. The CSP *End-of-Investment Outcomes* were detailed in the CSP Program Logic and are outlined below in Figure 1. The full Program Logic is provided as Annex F in the Investment Design Document.

**Figure 1: Outline of five CSP design outcomes**

#### **Outcome 1**

Increased overall organisational effectiveness and accountability in ANGAU Hospital, fully utilising its redevelopment, and PMGH and SMHS.

#### **Outcome 2**

Increased specialty and subspecialty skills and competencies in ANGAU Hospital, fully utilising its redevelopment, PMGH, and SMHS.

#### **Outcome 3**

Increased competencies in cross-cutting clinical best practice in ANGAU Hospital, fully utilising its redevelopment, PMGH, and SMHS.

#### **Outcome 4**

increased primary health care skills and competencies in relevant urban health centres in Lae, fully utilising ANGAU Hospital redevelopment.

#### **Outcome 5**

Men and women equally utilising improved leadership and clinical skills within ANGAU Hospital, fully utilising its redevelopment, and within PMGH and SMHS.

Source: *PNG Clinical Support Program - Investment Design Document*

During Phase 1 and then increasingly during Phase 2, the focus on the above five outcomes in the original investment design was lost. During Phase 2, this seemed to be a more deliberate attempt to focus implementation on complementing the infrastructural redevelopment of AMPH and played a key role in achieving on-time commissioning of those wards scheduled in 2021/22. Until recently, there has been less focus on PMGH and SMHS.

Some stakeholders reported that they felt the outcomes were highly ambitious, particularly Outcomes 1 and 4. The addition of the PMGH and SMHS in four of the outcomes appeared to be an add-on rather than an integrated component of the outcomes. Both managing contractors, but especially JID, admitted to challenges with accommodating activities at PMGH and SMHS (until more recently) during implementation.

Despite these issues, no one who was interviewed challenged the broad direction of the original CSP investment design or the focus of the five end of program outcomes. Consultations with clinicians

and administrators at AMPH and PMGH confirmed that Outcomes 2 and 3 remained highly relevant and that Outcome 1 had assumed more relevance as the CSP progressed. These same consultations confirmed that Outcome 4 was relevant as AMPH aims to reduce inappropriate referrals to the regional hospital, a perspective supported by the Provincial Health Authority (PHA), HSSDP and PNG-Australia Transition to Health (PATH).

Overall, the original CSP program design remains largely relevant to the broad needs of PNG health. While the five originally proposed outcomes also likely remain relevant, they need to be revisited and possibly revised for any future iterations of the program.

#### **4.1.2. Adherence to the design**

The onset of COVID-19 in 2020 meant that the face-to-face trainings and mentoring could not take place due to global travel restrictions. This meant the staff of AMPH, and other training participants had to navigate learning through an online platform or through remotely delivered training. Participants and trainers agreed that while not optimal, enough support was provided to ensure positive learning experiences. Prior to the onset of COVID-19, implementation was slow and hampered by not enacting governance arrangements outlined in the investment design. The investment design, as detailed in the *PNG Clinical Support Program - Investment Design Document*, was not referenced significantly by RACS other than for reporting purposes. RACS' implementation activities (detailed below) were all linked to one of the five outcomes without demonstrating the logical relationship with those outcomes (or even the associated outputs). A review of RACS documentation (planning, activity reports) does not demonstrate that the needs assessment, activity prioritisation and implementation were significantly influenced by the investment design.

The *JID Clinical Support Program (CSP) – JID Concept Paper for Discussion*, deviates from the original investment design, presumably with the agreement of DFAT. There is no mention of the five outcomes and a new set of priorities were included which more closely reflected the needs at AMPH. As a result, the program logic and the five outcomes included in the original design were not used as a framework for JID planning, implementation and evaluation.

A design is developed at a specific point in time and while it should guide implementation, outcomes can change in response to context and needs during implementation, which should drive a review of activities and outputs. However, there is (a) no evidence that the original design was in fact reviewed and issues identified; and (b) no evidence that an alternative program logic was developed to guide implementation. The lack of adherence to the design and the program logic/theory of change during implementation, or the development of a revised program logic, has undermined program integrity. First, it is not possible to adequately assess the extent to which the program achieved the outputs and end of program outcomes. Second, and perhaps more importantly, critical elements of the original design such as the relationship with PMGH and SMHS, the need to work with facilities referring to AMPH to reduce inappropriate referrals, and the need to increase overall organisational effectiveness and accountability were neglected. There is no evidence that these elements lost relevance in the period of implementation of the CSP.

## **4.2. CSP implementation**

Implementation of the CSP was slow and hampered by not enacting governance arrangements outlined in the investment design (see also section 4.4. Governance, below).

#### 4.2.1. Phase 1 implementation – RACS management

The CSP commenced on 25 October 2018 with RACS as the managing contractor (Phase 1 of the CSP). RACS was directly contracted by DFAT as the CSP managing contractor and was accountable for CSP implementation including the management of logistics (security, accommodation and welfare of volunteer health specialists) and administrative activities. RACS' role as the program contractor was not only to provide training to increase specialty and sub-specialty skills and competencies in cross-cutting clinical best practice (Outcomes 2 and 3) but also to ensure that Outcomes 1, 4 and 5 were met by working collaboratively with partners.

RACS was to provide the following program staff:

- an executive level CSP general manager based in Melbourne (in-kind contribution)
- an Australian-based senior clinical director
- an experienced, in-country senior program manager based at AMPH because of the special focus on supporting the success and full utilization of the AMPH redevelopment
- two administration managers, based at Lae and Port Moresby, respectively

However, not all these staff were recruited and employed, especially those planned for employment in PNG. RACS was also to liaise, coordinate and partner with other relevant DFAT-funded development and health support initiatives in PNG. The key partners were:

- Abt Associates through its Health and HIV Implementation Services Provider (HHISP) program for Outcomes 4 and 5
- JID for coordination of CSP activities to support the success and full utilization of the AMPH redevelopment
- DFAT/ADB/Government of PNG co-funded Health Services Sector Development Program (HSSDP) for Outcomes 1, 4, and 5. RACS was also to work with HSSDP on possible future opportunity for collaboration with the DFAT-funded UPNG Pacific precinct program, e.g., for short courses on leadership for health chief executive officers in CSP Outcome 1, and facilitating the ongoing strengthening of the relationship between the SMHS and UPNG
- WHO Collaborating Centre for Nursing, Midwifery, and Health Development, University of Technology Sydney, who will work with CSP for specialist nurse volunteers' recruitment where needed.

HSSDP intended to deliver its Integrated Suite of Development Program (ISDP) at CSP sites for Outcome 1. Each development program would be linked to CSP site-specific change management and organisation/clinical development issues, with a particular focus on supporting the successful utilisation of the AMPH redevelopment. ISDP would target boards, executive and middle managers, and include clinical governance development for system change and quality improvement, at no additional costs to CSP. For Outcome 4, HSSDP and HHISP were involved because of their renewal of urban health centres at Lae, and the opportunity through CSP to support strengthened clinical specialist linkages aiming to reduce primary health care visits to AMPH. Evidence from consultations in both PNG and Australia suggests only the partnership with the WHO Collaborating Centre was fully functioning while the others were never fully developed.

RACS was to develop a three-year strategic and Year 1 annual plan in the first three months of the CSP to determine priorities. Given the CSP's critical role in supporting the successful utilisation of the AMPH redevelopment, the plan aimed for an approximate 70:30 split of resources between Lae and

Port Moresby. Under the strategic plan, the visiting volunteer clinical specialist teams were to have a service delivery systems-change approach. To strengthen the sustainability and relevance of the training, short courses were to be developed and delivered by PNG specialists with Australian support, rather than purchased offshore as had been the previous norm. Off-shore advanced training would be 3-12 months and structured to meet individual learning for PNG specialist needs. There would also be vertical support to enhance specialist services, and horizontal support strategies – such as leadership, clinical governance, infection control – for organisation development to help sustain specialist services improvements.

Over the course of the CSP (October 2018-2021), RACS implemented 34 activities. The majority (24 activities) were implemented in 2019. The activities ranged from training, scoping and mentoring (21 activities) to clinical support and mentoring (4 activities); conference attendance (5 activities); program management (2 activities); and equipment procurement (2 activities).

Phase 1 of the CSP, when RACS was the managing contractor, delivered training in the following areas:

- a. Emergency Management of Severe Trauma
- b. Basic Assessment and Support in Intensive Care (BASIC) – Paediatrics for Nurses
- c. Paediatric Life Support
- d. Advanced Paediatric Life Support
- e. Emergency medicine – development of a Graduate Diploma in Emergency Medicine
- f. Triage and Emergency Department flows

The key outputs achieved in relation to the end of the program outcomes are provided in Annex F.

Of the many activities supported by RACS under the CSP, most activities were relevant to Outcomes 2 and 3, which aimed to increase specialty and subspecialty skills, as well as competencies and cross-cutting clinical best practice skills in AMPH, PMGH and SMHS.

In Phase 1, RACS made efforts to identify broader clinical support needs including at UPNG, SMHS and PMGH, as well as at AMPH. RACS' longstanding relationships in PNG, and the Western Pacific more broadly, were leveraged to engender productive initial consultation and scoping efforts.

Some of the CSP partners noted that, despite these needs having been identified, few were substantially addressed. There was also concern expressed that an initial comprehensive needs analysis had not been undertaken. There were several reasons that RACS was not able to conduct a robust needs analysis or to act sufficiently quickly or appropriately on the identified needs.

These reasons have been detailed in the Rapid Review report (*Review of the RACS Program in PNG, 18th December 2019* undertaken by Health and HIV Implementation Service Provider). The key reasons include:

- The lack of a business registration in-country meant that RACS was not able to implement some core deliverables including engagement of local staff, registering vehicles and opening trading accounts for local procurement
- There was a lack of a coordinated effort to meet the needs/demands of the hospitals with RACS taking a volunteer-centric approach with some volunteers being placed in-country through an ad-hoc process rather than with full consultation of the hospital leadership

- The training agenda was partly driven by established patterns rather than current need, making it less useful than it otherwise might have been
- Activity approvals did not seem to have necessarily been based on longer-term planning or needs assessment
- The failure to establish an in-country CSP Steering Committee meant that the RACS' CSP activities did not reflect the training needs.

A key recommendation was to conclude RACS' role as the CSP managing contractor.

The Evaluation Team, based on observations and consultations, concurs with the findings of the Rapid Review.

#### 4.2.2. Phase 2 implementation – JID management

After the Rapid Review, JID was appointed as the CSP managing contractor from 01 March 2020 to 31 December 2022 (Phase 2 of the CSP). This second phase of the CSP had two key objectives:

1. Delivery of training requirements to enable the successful commissioning of the redeveloped AMPH
2. The longer-term priority clinical areas for upskilling across AMPH, PMGH and UPNG

The CSP Phase 2 consisted of four main activity areas:

- Training/Professional Development for AMPH staff
- Design, development and implementation of the COVID-19 Healthcare E-Learning Platform (CoHELP)
- Design, development and implementation of the Kumul Helt Skul (KHS) learning management system
- COVID-19 CSP Pivot Training/Professional Development

However, the key focus was on the delivery of training requirements to enable the successful commissioning of the AMPH redevelopment.

Activities implemented in the above four activity areas up to July 2022 are detailed in Annex G.

The transfer of management to JID for the second phase of the CSP led to improved program management implementation. JID's presence on the ground with dedicated resources at AMPH were also critical to improved implementation. JID's proactive and resourceful on-site human resources enabled the establishment of strong relationships with most clinicians, critical to the successful implementation of the program.

JID brought appropriate content expertise to the program, entering more precise sub-contracting arrangements with many of the same resources that had been used by RACS. This included the Burnet Institute, Australasian College for Emergency Medicine (ACEM), World Health Organisation Collaborating Centre University of Technology Sydney (WHOCC UTS), Australian College of Perioperative Nurses (ACORN), Monash University, Australian and New Zealand Intensive Care Society (ANZICS). Sub-contractors were given effective support and the contracts were more carefully managed.

In Phase 2 of the CSP, capacity building efforts were refocussed towards the delivery of training to enable the successful commissioning of the AMPH redevelopment. Consequently, the needs

assessment process that had been broad under RACS became quite narrow and focused on achieving ward-by-ward commissioning ambitions. Wards scheduled for more immediate commissioning (paediatric, obstetric, emergency care) became the focus of high priority training needs assessment and development. This approach was a more suitable use of capacity building investment and likely to deliver immediate practical returns. However, this acted against achieving broader benefits (for instance through changes to curriculum at SMHS or even replication of training to PMGH), although some of the sub-contractors tried to create mechanisms to promote wider training impact.

Another drawback of the AMPH-centric approach was that the intention of the investment design to develop parallel clinical support actions at PMGH and UPNG was weakened. The investment design specified that total activity in the CSP should favour AMPH, but that at least 30% of total activity should be undertaken at PMGH and UPNG. However, during the evaluation, JID officers stated that, until recently, the distribution of effort was closer to 90:10 than the planned 70:30.

The recent reallocation of JID resources geographically between Lae and Port Moresby, to more properly reflect the originally intended split of 70:30, seems to have initiated more activity at both PMGH and the SMHS, with some of the AMPH work being replicated or embedded in courses, and some innovative initiatives being enacted. For instance, the CSP funded and otherwise supported the development of a business case for the establishment of an Infectious Diseases Department at PMGH. This department, if approved, would provide a basis for more targeted capacity building and provide a template for similar Departments in other hospitals in PNG. This transition to a 70:30 split includes the establishment of governance arrangements that could potentially support broader national capacity building at PMGH and other hospital emergency departments. An example would be the arrangements initiated by PMGH, in conjunction with the NDoH Clinical Chiefs, to support national roll-out of innovations in emergency medicine emerging from AMPH.

The reorientation of the focus of CSP in Phase 2 was necessitated by several factors. First and foremost was the need to ensure the timely delivery of the AMPH redevelopment. The pivot to remote learning management systems, e.g., CoHELP and KHS, was motivated by the COVID-19 pandemic. One consequence of these factors was a limited focus on linking Phase 2 inputs and activities with the end of program outcomes.

#### **4.2.3. COVID-19 impact**

The COVID-19 pandemic hit Australia and then PNG early in Phase 2 of the CSP program. The declaration of a global pandemic and the resultant travel restrictions in March 2020 meant that the face-to-face trainings and mentoring could not take place. Consequently, the staff of AMPH, and other training participants had to navigate learning through an online platform or through remotely delivered training. Participants and trainers agreed that while not optimal, enough support was provided to ensure positive learning experiences.

The CSP program successfully 'pivoted' from planned capacity building approaches (face-to-face group training, training placements, supervisory and mentoring visits, etc.) to more remote forms of learning. This included online training on existing platforms (e.g., Monash Online Paediatric Essentials Course (MOPEC) and Zoom-based 'lecture-type' sessions) delivered through staggered sessions targeting clinician groups. These sessions were facilitated by JID, with lecturers based in

Australia. Some training, planning and mentoring of prospective local trainers was also done remotely.

As well as using existing remote learning resources, a new learning platform was created. The Kumul Helt Skul (KHS) is a mobile, low bandwidth-friendly, digital virtual learning platform developed and launched to provide clinical training and upskilling to AMPH clinical and non-clinical staff. Over 30 training modules covering Emergency Department, Infection Prevention and Control, Operating Theatres, Birthing Suites and Central Sterilising Unit have been developed and launched through the KHS platform.

The COVID-19 Healthcare E-Learning Platform or CoHELP is a virtual platform, developed during the COVID-19 pandemic in 2020 with the support of NDoH, WHO and its regional office, to support clinician responses to the COVID-19 pandemic. CoHELP uses an open-source low cost LMS Moodle system to deliver live trainings (modules) and seminars, discussion forums and resources. The platform has been used to offer courses in COVID-19 outbreak control, clinical management surveillance and reporting. CoHELP has been highly acceptable to all cadre of healthcare workers across PNG and is reported to have increased local understanding of the COVID-19 pandemic. The challenges faced by staff in using CoHELP included unfamiliarity with electronic devices, access to the internet, frequent low internet reception and finding the time for remote learning.

In May 2021, the scope of the CSP broadened to also include the provision of targeted support to AMPH and PMGH for the COVID-19 response, through the rapid deployment of clinical expertise for an initial three-month period. Following agreement with both AMPH and PMGH, clinical and management support was directed to three speciality areas in PNG: Emergency Medicine; Infectious Diseases, Infection Control and Prevention; and Maternity Services. Fourteen clinical specialists were recruited, mobilised, and deployed to PNG for up to 12 weeks (25 June to 10 September 2021) to provide management and clinical support to clinical partner organisations and their staff, including PNG front-line health workers. The deployment focused on capacity building and health system strengthening, coordination of care, health promotion and teaching, and patient advocacy. Clinicians worked alongside their PNG counterparts to help teams respond to COVID-19 patients as well as continued to deliver essential services in a pandemic environment. Clinicians were recruited through the existing CSP Phase 2 partnerships:

- Emergency Medicine: Australian College of Emergency Medicine (ACEM)
- Infectious Diseases, Infection Control and Prevention: Burnet Institute
- Maternity Services: University of Technology Sydney Collaborating Centre World Health Organization Nursing (WHO CC UTS)

### **4.3. Effectiveness and impact of the CSP**

#### **4.3.1. Measurement of change**

The CSP M&E Framework specified several baseline measures to support a 'before and after' assessment of impact from the CSP. No evidence was found that baseline measures to facilitate a 'before' analysis of the pre-CSP situation were undertaken.

The impact of CSP on outputs (increased clinician skills and improved practice) and outcomes (improved quality of services and outcomes of patient care) were difficult to measure due to the lack of baseline information. These challenges were compounded by limited adherence to the CSP M&E

Framework, including limited data collection. Nonetheless, as evidenced in sections 4.3.2 and 4.3.3 below, there are clear indications of the effectiveness of the CSP. JID's on the ground presence and local networking was a large part of these achievements.

Based on the investment design and M&E Framework, the following data should have been collected and provided to the Evaluation Team for the evaluation of the CSP:

- **Against outputs:** Semi-structured interviews and surveys eliciting data on clinical competencies and attitudes and behaviours (intended in the M&E framework to be undertaken before and after every capacity building activity). The M&E notes that “RACS’ *well-tested education tools to assess change*” were to be used to capture data on change in competence
- **Against outcomes:** (1) Assessment of AMPH and PMGH against the National Health Service Standards, both pre and post CSP implementation (2) Selected pre-2018 clinical outcomes data in those areas of specialist practice primarily targeted by CSP. According to the RACS report, this includes emergency medicine, anaesthetics and intensive care, paediatrics, infection control and clinical supervision.

Given baseline data is not available, the Evaluation Team was not able to make a quantitative assessment of impact against the stated outcomes of the CSP.

In addition, data on the following outputs specified in the original M&E Framework was also not available:

- Output 1: Leaders in ANGAU Hospital and PMGH demonstrate improved skills and knowledge to improve organisational effectiveness
- Output 2: Clinical leaders and clinical specialists in ANGAU Hospital, PMGH and SMHS demonstrate improved clinical, professional and patient skills and knowledge
- Output 3: Clinical leaders and clinical specialists, and other relevant staff, in ANGAU Hospital, PMGH and SMHS demonstrate improved skills, knowledge and competency on cross-cutting clinical best practice
- Output 4: ANGAU specialists demonstrate good referral relationships with staff in urban health centres in Lae
- Output 5: Men and women equally demonstrating improved leadership and specialist clinical skills.

There has been limited effort to measure change in competence (for which objective assessment could have been against relevant PNG competency standards/frameworks or other frameworks or even learning objectives) to determine if training participant's knowledge and skills had increased. There was no evidence available to demonstrate that attempts had been made to determine the extent to which competency improvement was being translated into sustainable change in clinical behaviours and patient and system outcomes at the ward level.

Monitoring and evaluation functions were to be undertaken by an internal RACS Evaluation and Monitoring Committee (EMC). The EMC was meant to provide independent clinical and educational expertise and support to the monitoring, evaluation and implementation of the RACS Global Health programs. It is unclear to the Evaluation Team the degree of engagement of the RACS' EMC in phase 1 of the CSP.

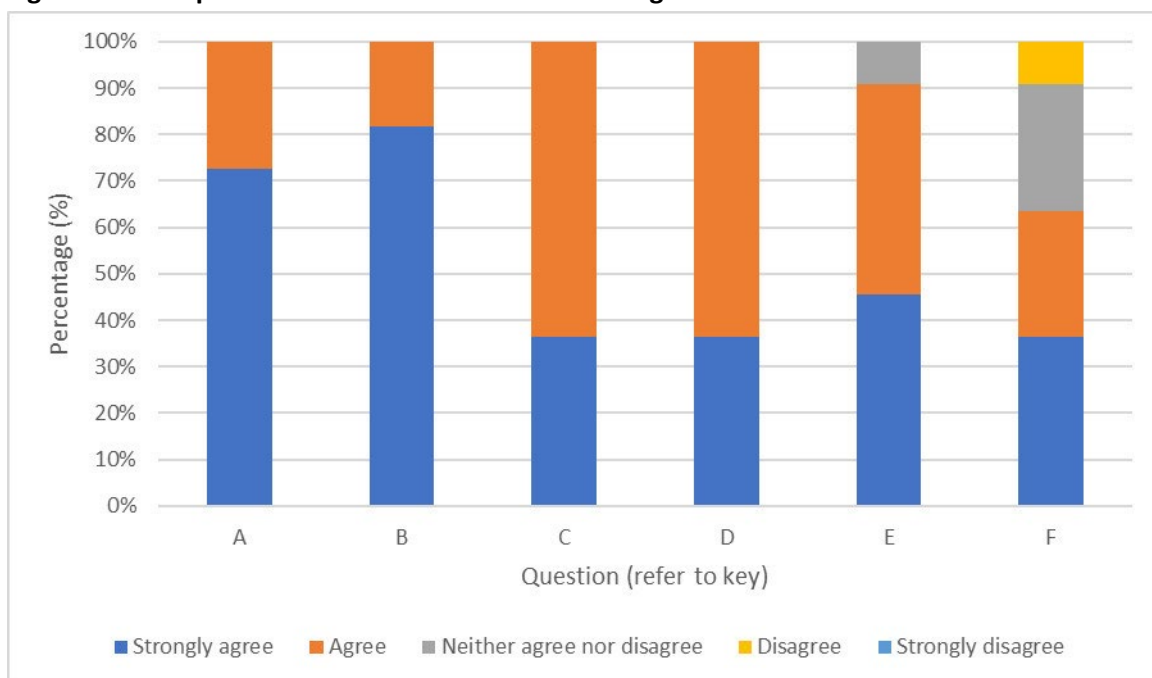


As part of Phase 2 of the CSP, JID was required to develop a revised CSP-wide M&E Framework to assess contribution to relevant key indicators in the National Health Plan 2011-2020. During consultations, the Evaluation Team was informed that the proposed revised program-wide Phase 2 M&E Framework had not been developed. Instead, each of the five sub-contractors had developed individual M&E Frameworks. The approach to M&E appears to have been inconsistent. Not all subcontractors completed an M&E Framework. Some sub-contractors, e.g., ACEM, Monash Children’s Simulation and WHOCC UTS, reported appropriate and comprehensive input and output type evaluation of their courses, e.g., number of staff attending the course, before-and-after measures of the training delivered and some assessment of change in competence.

#### 4.3.2. Participant perspectives on training interventions

Figure 2 reflects the high acceptability of the CSP training courses amongst the 26 survey participants. There is general agreement that the CSP trainings were relevant, increased participant knowledge and understanding, and supported participants to confidently apply and teach others what they had learned almost immediately. Fewer respondents indicated that they had received adequate follow up of training through appropriate mentoring and supervision support. It should be noted that the sample size of only 26 respondents is quite small, and results should be interpreted with caution.

**Figure 2: Participant Satisfaction with the CSP training**



A = The content of the training was relevant to my job/role.

B = The training enhanced my existing understanding and skills.

C = I was able to practice what I learnt almost immediately in my current job/role.

D = I have been able to transfer what I learnt to my work colleagues and junior staff.

E = I now feel more confident in performing my job.

F = Mentoring and supervision continued after the training I received to support and evaluate my competence.

Some comments volunteered by survey respondents included:

*“The main things that changed my understanding, skills, practice after receiving the training was how to take care of the paediatric patient's by attending to them at emergency phase, or resuscitation phase and other's as well.”*

*“I was able to identify the critical signs and act fast”*

*“A more organised way of triaging and time each category must be attended to...”*

Some aspects of the training that participants suggested required improvement were the inclusion of more medical trainers and personnel, fair selection on who attends trainings, reduction of internet challenges, the need for supervisory/mentoring follow-ups, and competency assessment of newly acquired participant skills and knowledge.

*“More input into the training. Hands on experience and real scenarios...”*

*“CSP should also include medical team in the future. Most of the time it involved nursing team”*

*“Do some medically oriented programs like specialty training for ONG specialists e.g., Neuro-gynaecology”*

#### **4.3.3. Qualitative evidence of outcomes achievement**

The CSP M&E focused on inputs and activities and did not monitor and measure progress towards the achievement of outcomes. As a result, this evaluation sought to collect subjective perceptions of change (i.e., change stories - sometimes partly supported quantitatively) from the immediate beneficiaries of the CSP: clinicians who received training. Some of the perceived changes at AMPH include:

- An increase in mothers seeking to give birth at AMPH. This observation was largely evidenced by mothers telling the clinicians they had travelled a considerable distance, including from the highlands, because they had heard about the new facility. This largely subjective impression was supported by increased confinement numbers above the usual levels. Although this is not necessarily an appropriate long-term outcome (especially if it includes women who should be supported at lower-level care options), it suggests increased consumer confidence.
- As a result of emergency obstetric care training, most nurses were now able to provide resuscitation directly, whereas previously they had routinely called a medical practitioner.
- In the special care nursery, the survival of low-birth-weight babies had improved to such an extent that a special purchase of cots had been required
- Increased number of deliveries compared to previous years
- Increased presence of male partners in the birthing centres of AMPH
- Development of an effective Emergency Department Triage Tool. Some CSP-trained clinicians reported that the introduction of the new triage system appeared to have reduced waiting times and to have resulted in more appropriate inpatient hospital admissions

Most of these service and health outcomes could be easily verified if the appropriate data was collected and analysed.

The Evaluation Team learnt from later interviews with the Clinical Chiefs at NDoH that health system data collection had improved in recent years through the transition of the national health information system to an electronic data collection process, but that the improvements applied more to data from Level 1 to Level 4 facilities (primary health care and district hospitals). Data from the provincial and regional hospitals, and PMGH as well, on clinical activity and outcomes (e.g., hospital acquired conditions, infection rates) remains an area requiring improvement. JID had identified this need at AMPH but was yet to explore the options other than in isolated areas of practice (e.g., emergency care).

#### **4.4. Governance arrangements and accountability and efficiency**

The proposed Strategic Program Steering Committee membership, to guide implementation and provide strategic oversight of the CSP program, was to include:

- Secretary, National Department of Health
- Minister Counsellor, Australian High Commission, Port Moresby
- CEOs of AMPH and Port Moresby General Hospital
- Executive Dean, School of Medicine and Health Sciences

RACS was intended to provide secretariat support for this Committee that would meet monthly in the initial phase (first three months), and then quarterly once CSP was established. There is no evidence that this Committee ever met.

A CSP Technical Working Group (TWG) for operational oversight, including planning, collaboration with partners and other key stakeholders, coordination, collaborative implementation where required, and troubleshooting was to include the following membership:

- NDoH Deputy Secretary (Chair)
- RACS
- DFAT Program Managers
- Clinical leaders from the three sites as designated by the hospital CEOs and the Dean of SMHS
- HSSDP
- HHSIP
- The WHO Collaborating Centre at the University of Technology Sydney
- JID

There is no evidence available that the TWG ever met. However, the WHOCC UTS advised that they had established, through their long-standing contacts, a national reference group to discuss implementation of their CSP components and to consider broader dissemination of training content. Further, activities by both WHOCC UTS and Monash Children's Simulation was based on an extensive 12-month scoping review of training needs undertaken by WHOCC UTS during the management of JID<sup>1</sup>. This led to Monash Children's Simulation leading the paediatric stream and WHOCC UTS leading the midwifery stream.

The proposed membership of both the Steering Committee and the TWG were both comprehensive and seemingly appropriate, with the possible absence of relevant technical assistants from WHO and

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<sup>1</sup> Correction: in an earlier version of this report, the managing contractor during this period was erroneously identified as RACS; this has now been corrected

their counterparts in the NDoH (for instance from the Workforce Standard and Accreditation Team and the Performance, Monitoring and Research Branch).

The failure to establish the CSP Steering Committee and the CSP Technical Working Group led to lack of accountability of the managing agents and limited buy-in from key national and local stakeholders. RACS' ad hoc volunteer-centric approach also meant that actual training demands and needs were not being met and, due to the lack of a functioning Steering Committee, there was no oversight group to bring RACS back to delivering on needs. An active governance arrangement would have more likely achieved a more efficient use of resources and optimal effectiveness with the least cost.<sup>2</sup>

The absence of implementation of the originally planned governance arrangements also undermined the CSP relationship with NDoH, PMGH, SMHS and other CSP partners. This in turn undermined the likelihood that lessons learned through the CSP could lead to sustained changes either locally (at the AMPH and Morobe PHA) or more broadly in the PNG health system (see also section 4.6 Sustainability).

#### **4.5. Efficiency of implementation**

Efficiency may be measured through the equation 'outputs/inputs'. Inputs in this instance are the funding investment, and 'outputs' is the volume of activity (of sufficient relevance and quality) undertaken as part of the implementation (a different way of using this term to the M&E Framework). This equation is difficult to calculate given the imperfection of data on both sides of the equation. The original investment design equated efficiency to a much simpler concept of "... *implementation on time and at cost*".

The Interim Review determined that implementation in Phase 1, in terms of volume of activity, did not progress according to agreed timelines. Cost issues were not addressed.

During Phase 2, JID addressed implementation issues by strengthening the staffing arrangements and adding JID internal monitoring capacity within their Melbourne office. This meant that operations on the ground, especially in AMPH, were better monitored. Most stakeholders attested to the improved efficiency in the use of CSP resources during Phase 2. This included maximising the attendance of participants in CSP training initiatives. Both sub-contractors running remote training interventions and AMPH clinicians and clinical managers testified that JID spent many hours ensuring the target population of training initiatives participated. On the design investment measure of timeliness at cost, Phase 2 was considerably more efficient.

#### **4.6. Sustainability**

During Phase 2, each learning process has been well documented by JID and has the potential to be replicated in other hospitals. However, if the CSP gains are not institutionalised within the local health systems through local partnerships (such as the short-term taskforce type arrangement to disseminate the emergency triage approach adopted at AMPH through the ACEM, the Clinical Chiefs and PMGH), these assets could be lost. Sustainability has been further impacted by the failure to establish a solid governance arrangement (See section 4.4, above).

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The development of PNG local training resources (clinical leaders) has created potential for sustainability of future clinical training activity. The persistent shortage of staff has, however, undermined ongoing use of these resources for training. Generalisation of the many possible learnings from the CSP to the broader PNG context has been pursued in an *ad-hoc* manner. Dissemination of learnings has relied on individual interests of ‘champions’ either within the resources of sub-contracted organisations or PNG based senior clinicians including the Clinical Chiefs. This unstructured and unfunded approach has undermined the sustainability of program impact.

Nevertheless, clinical leads at AMPH (and more recently at PMGH) have been integral to the development and – at times – delivery of training initiatives. Interviews at AMPH and PMGH with clinical leads indicated that the clinical leads were competent, confident and extremely willing to take responsibility for on-going capacity building in those areas where the CSP had already been implemented. There was a general desire for PNG resources to take control of capacity building, a sentiment supported by Clinical Chiefs and NDoH executives. However, achieving this will be challenging due to insufficient staffing which forces senior clinicians to spend most of their time in clinical operations with limited time left to invest in strategic capacity building.

#### **4.7. GEDSI considerations**

The original investment design sought inputs to reflect a 50:50 balance between male and female engagement in CSP activities. Output and outcome targets were set. It required activities to ensure “... *equal inclusion of people living with a disability*” and for gender-based violence to be “...*incorporated as both a clinical and staffing issue*”. Targets were not set for outputs or outcomes in these areas. Despite these targets, overall, the evaluation team did not see strong evidence of GEDSI considerations significantly informing the implementation approach.

Despite this, participants in training and other CSP interventions were predominantly female. This was determined through the gender disaggregated data collected from CSP activities. Across the life of the program, there was an equal gender balance (51% female) in the number of national clinicians mentored during the four clinical VMTs. Of the participants trained through CSP interventions, 58% were female. Given the nature of the target beneficiary population of the CSP (predominantly female health workforce), parity at least in gender participation in training and other interventions would have been expected.

In reference to outcomes, there was no measure provided to the Evaluation Team on changes in female participation in leadership roles. However, in the management of the CSP, JID employed several highly capable PNG practitioners to manage and coordinate the implementation. The most senior of these practitioners were all female. In the design of the birthing suites, accommodation was made for male partners to be present during delivering and post-partum. Nurses’ capacity to facilitate this outcome was also achieved. KMC Coaching and Scale Up is the WHO strategy that encourages the father and mother to lay their newborn babies on their chest.

Another requirement of the investment design was that sex-disaggregated data be collected on CSP activities. This was in line with evolving NDoH policy and practice (to be introduced in 2023) for training and services. Both RACS and JID have reported all activity in a way that allowed gender participation to be monitored.

There was no evidence that disability and other forms of social inclusion had been specifically considered in the design or delivery of CSP interventions. As noted above, there were no targets set for these areas and no requirement for specific data collection on participation of people with a disability. The absence of these requirements, unlike for gender, likely contributed to the lack of integration of disability considerations.

In the JID CSP team, there was strong women's leadership with skills and expertise matching global standards.

## 5. Recommendations

### 5.1. Overview

The findings of the evaluation, notwithstanding the identification of areas that could have been improved (primarily regarding governance, monitoring and evaluation, early implementation progress and the relationship with PMGH and UPNG) and the disruptions caused by the arrival of COVID-19 in PNG, suggest considerable progress has been made. A number of critical services have now been commissioned at AMPH, largely on time and with staff sufficiently trained to confidently utilise the hospitals redevelopment potential.

However, at the time of the review, the task of fully commissioning AMPH was not complete as several wards remained to be structurally completed and the human resources to be appropriately developed. The task also of transferring learnings from AMPH, through collaboration with PMGH and UPNG has only just begun to be implemented.

The Evaluation Team therefore recommends, in line with the long-term thinking in the original investment design, that a third phase, at a minimum, of the CSP be supported to 'finish' the work envisaged in that design. The recommendations in the following sections (5.2 to 5.6) are specific to a funded Phase 3.

### 5.2. Recommendation 1 - Governance

1. In any future phases of the CSP, there needs to be a greater emphasis on collaborating with partners to better govern the CSP, strengthen accountability mechanisms and to deliver on program outcomes. This should involve establishing the governance arrangements stipulated in the original investment design or revised governance arrangements tailored to the current context. For example, the involvement of WHO (especially relevant technical experts) and more PHA representation could better support the current decentralised service delivery arrangements in PNG.

### 5.3. Recommendations 2-4 - Design Considerations

As noted in the findings, the original direction of the design was eroded over the course of the two CSP phases from 2018 to 2022. This loss of connection with the design was partly through initial lack of commitment to the intent of the design and then subsequently because the context in which the CSP was operating had significantly changed due to the COVID-19 pandemic. Irrespective of the cause, a renewed connection with the original or a new investment design is required to ground future phases of the CSP. It is recommended therefore:

2. In the design of a future phase of the CSP, the design team **should review the original investment design** and determine what remains relevant, what needs to be discarded, and what new outcomes are required (relevance). This review should be undertaken in consultation with key stakeholders, ideally operating within a newly established governance arrangement (see above)
3. A new investment design should include a **new Monitoring, Evaluation and Learning (MEL) Framework** and ensure the program is adequately resourced and funded to strengthen rigour around MEL. Implementation of a baseline survey and a stronger and more uniform commitment to objective measurement of outputs and outcomes will be essential to

demonstrate CSP effectiveness and impact. The managing contractor should develop an overarching MEL Framework to guide all evaluation efforts, even if individual sub-contractors have their own MEL plan, and support ongoing robust MEL throughout implementation

4. Any future investment will need a **stronger focus on GEDSI**. GEDSI considerations need to be fully integrated into the new design and MEL framework and be properly resourced. This should include a strengthened focus on gender equality in clinical leadership positions and a more structured approach to reducing barriers to participation in CSP interventions related to gender equality and disability. The MEL Framework should have a clear requirement for disaggregated data to be collected on participation in CSP activities by gender and [physical and intellectual] disability and outcomes of participation in leadership roles

#### 5.4. Recommendations 5-6 - Capacity building considerations

There are several departments at AMPH that have yet to be commissioned into the newly completed infrastructure including the surgical and medical wards. These are scheduled to be progressively commissioned in 2023. Once this is complete, the vacated old infrastructure will be refurbished, and these will then become sites for re-commissioning.

5. It is recommended that the commissioning of these departments be preceded by **clinical capacity building** to ensure the new facilities are optimally utilised, as for those that have already been commissioned

The development of an appropriately staffed and equipped Training Department is essential to ensure that the current appetite for training at AMPH is sustained.

6. It is recommended that a **'home' for a training department** be found in one of the facilities to be refurbished in 2023. This will allow proper housing of currently supplied training equipment (e.g., simulation mannequins) and any other training resources that could be donated or purchased in the future. The training department staff would need to be trained in the same way as clinical staff following a proper re-design of the department's functions and a structured training needs analysis

#### 5.5. Recommendations 7-8 - AMPH management

As clinical facilities and clinician skills are improved, other areas of hospital management and practice are emerging as limiting factors to clinical performance. This includes areas such as biomedical support, hospital administration, information management (medical records, administration and coding), facilities management, and hotel services.

7. The definition of 'clinical support' should be expanded or applied flexibly to ensure that these areas of hospital management do not become limiting factors to clinical performance. In other words, **the CSP should be broadened in scope to have a greater focus on systems strengthening** (e.g., financial management, IT, procurement, data collection and evaluation) in the immediate and any future investment.

More broadly, the original investment design envisaged that:



*“... the sustainability of CSP interventions will be dependent upon the sustained vision and leadership of local PNG clinical specialists, supported by enduring relationships established with their Australian colleagues ...”*

During consultations at the NDoH, PMGH and AMPH, it was clear that local clinical specialists were keen to 'step up' and play a leadership role in the capacity building of the PNG health workforce. They are constrained from doing so by workforce shortages that require them to be highly operational and constantly at the clinical coalface.

8. It is recommended that, given the short-term intractable workforce shortages, that more **consideration be given to ways of freeing some clinical leaders** to undertake more strategic roles. This might include strategies such as:
  - Temporary and specific backfill for clinical senior roles in hospitals undergoing development
  - Negotiation with Australasian Royal Colleges (and perhaps other Western Pacific countries) to re-accredit posts in PNG hospitals for Australian and New Zealand doctors in registrar training

#### 5.6. Recommendation 9 - Dissemination of what is proven to work

There are several interventions at AMPH implemented as part of the commissioning, involving processes and protocols, tools and/or capacity building, that have resulted in new practice that could be applicable more widely in PNG. The introduction of a new triage process in the emergency department and new birthing protocols in maternity are good examples. These could (indeed should) be disseminated and made common practice, possibly after some customisation to a broader PNG context, in most other similar sized hospitals and perhaps more widely.

9. It is recommended **to identify proven effective examples of capacity building at AMPH that could be replicated in other provincial hospitals** or generalised to the wider PNG health system and develop mechanisms to make this happen. This will likely require building on and leveraging relationships with UPNG and PMGH to incorporate content into existing curricula or developing new formal course options

## 6. Suggestions for future CSP direction

The above recommendations relate to a recommended third phase of the CSP. The commentary below relates to suggested even longer-term investment that could follow or potentially overlap with a Phase 3 of the CSP.

The current CSP, which has focused primarily on the learning and development needs of AMPH, has built considerable expertise in supporting hospitals in transition through either redevelopment or refurbishment, essentially turning a building into a fully functioning hospital. There is an identified need to similarly support other hospitals in PNG including those that are undergoing redevelopment or have recently been built.

Support of other hospital developments is not entirely in accordance with DFAT's longer term rural health systems strengthening priorities, especially if it involves investment in Level 4 and 5 facilities. However, it is also not in conflict with a broader focus on improving overall health system quality

and the role of tertiary level care in creating and driving system quality. It is also likely to be in accord with emerging PNG government policy. Moreover, there is some evidence to suggest that when coupled with a health-system strengthening approach, effective specialist services can play a key part in population-based health-care delivery including by treating and preventing avoidable morbidity and mortality directly<sup>3</sup>.

If this path were to be adopted, then strong links with other initiatives would be required to ensure impact is not restricted (a) only to a single hospital and (b) only to level 5 clinical improvements. One of the gaps in the CSP has been the limited development of clinical skills down to at least Level 3 facilities. This has proven difficult because of staffing limitations at AMPH (such that potential trainers cannot leave AMPH to deliver training, mentoring and clinical supervision at other facilities). In Morobe Province, several new Level 2, 3 and 4 facilities have been newly constructed and could reduce referrals to AMPH, but only if staff are appropriately developed.

From a DFAT perspective, geographic support linkages would ideally overlap and reinforce other investment initiatives. For example, PATH PHAs, provinces where primary care infrastructure are being developed (by ADB and other donors), and PHAs that WHO is supporting to create demonstration provinces for maternal and child health programs.

## 7. Acknowledgements

The evaluation team would like to thank staff from Australia's Department of Foreign Affairs and Trade (DFAT), Specialist Health Services (SHS) and Abt for facilitating our in-country visit. The Evaluation Team is especially appreciative of the staff from JID in general, but especially those designated for the management of the CSP.

During the consultations, over 60 individuals from many organisations were kind enough to give their time in interviews and focus group discussions. These people were unfailingly open, frank, and respectful in their dealings with the Evaluation Team.

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<sup>3</sup> Chan, T., et al. 2014. Cost-effectiveness of surgery and its policy implications for global health: a systematic review and analysis. *Lancet Global Health* 2: e334–45 and Annex 3.

## Annex A. List of documents reviewed

### PNG Policies

- PNG National Health Plan 2010-2020  
[https://www.health.gov.pg/pdf/PNGNHP%20Vol1\\_2014.pdf](https://www.health.gov.pg/pdf/PNGNHP%20Vol1_2014.pdf)
- PNG National Health Plan 2021-2030

### DFAT Policies and Guidelines

- Disability Inclusion in the DFAT Development Program: Good Practice Note  
<https://www.dfat.gov.au/sites/default/files/disability-inclusive-development-guidance-note.pdf>
- Gender equality and women's empowerment Strategy 2016  
<https://www.dfat.gov.au/sites/default/files/gender-equality-and-womens-empowerment-strategy.pdf>
- Partnerships for Recovery <https://www.dfat.gov.au/sites/default/files/partnerships-for-recovery-australias-covid-19-development-response.pdf>
- Papua New Guinea Australia Comprehensive Strategic and Economic Partnership (CSEP)  
<https://www.dfat.gov.au/sites/default/files/papua-new-guinea-australia-comprehensive-strategic-and-economic-partnership-signed.pdf>

### DFAT Program Documents

- CSP Design Document. December 2019
- PNG Health Portfolio Plan Priorities
- CSP Phase 2 COVID-19 Pivot Final Report

### CSP Activity Documents and reports

- ACEM. CSP Phase 2 Report 5: Handover Report. ANGAU Memorial Hospital. January 2022
- ACEM. CSP Phase 2 Report 6: Handover Report. Port Moresby General Hospital. January 2022
- ANZICS. ICU Commissioning Preparedness: Scoping Report and Recommendations. October 2021
- Burnet Institute. Interim report: Improving TB model of care in Angau Hospital. April 2020
- Catalpa International. Kumul Helt Skul Annual Progress report. December 2021
- HHISP. Review of the RACS Program in PNG. 18th December 2019
- JID. Clinical Support Program Phase 2 supporting data in July 2022 – achievements and highlights
- JID. Clinical Support Program (CSP) – JID Concept Paper for Discussion
- JID. Project management plan incorporating quality management. TN022: Clinical Support Program. February 2020
- JID. Deployment of clinicians to PNG Final Summary Report. October 2021
- JID. ANGAU Hospital Redevelopment PROJECT 2021 Annual Report. April 2022

Monash Children's Simulation. Report 3 Commissioning briefing report and training package development progress. ANGAU Memorial Hospital. December 2021

- Monash Children’s Simulation. Report 4 Update on progress of MOPEC course and closing of project ANGAU Memorial Provincial Hospital. June 2022
- RACS. Papua New Guinea Clinical Support Program (PNG CSP) End of Program Report 31 March 2022
- WHOCC UTS. Scoping Report 1 – Birthing Suites. November 2020
- WHOCC UTS. Scoping Report 1 – Paediatric Facilities. January 2021

WHOCC UTS. Project Consultancy Agreement for Obstetrics and Gynaecology, and Paediatric Commissioning, and Scoping of Training Requirements and Consultancy Services. March 2022

## **Annex B. Participant survey tool**

### **EVALUATION OF THE CLINICAL SUPPORT PROGRAM SKILLS DEVELOPMENT**

**The Clinical Support Program (CSP) was created to enhance the quality of care at ANGAU Memorial Hospital through an integrated approach to strengthening clinical capacity. It has drawn on institutional partnerships with Australian specialist medical colleges and academic institutions to provide upskilling and other professional development. Training and development interventions have mostly been at ANGAU Hospital but also at Port Moresby General Hospital and the School of Medicine and Health Sciences.**

**As someone who engaged with one or more of these CSP interventions, by attending a training course, workshop or with an online program. We would like you to complete this survey. It is important that we find out what those who participated in these capacity building interventions think of what was provided.**

**This survey is voluntary. If you choose to participate, your response will be completely anonymous. We will not be collecting or publishing any data that would allow your response to be identified.**

**Thank you for participating in the survey. It should take between 5 and 10 minutes. Please answer at least all the questions marked with a (\*) star. If you have not participated in any CSP course or other learning opportunity, you can skip to Question 14.**

## **EVALUATION OF THE CLINICAL SUPPORT PROGRAM SKILLS DEVELOPMENT**

**\* Q1. What is your gender?**

- Female
- Male
- Other
- Not comfortable to disclose

**\* Q2. How old are you?**

- Under 25     45-54
- 25-34       55-64
- 35-44       65+

**\* Q3. What is your health occupation? Please choose one of the below.**

- Medical specialist
- Generalist medical doctor
- Doctor-in-training
- Midwife
- Community Health Worker
- Other type of nurse
- Registered nurse
- Other type of health profession (please specify)

**\* Q4. How many years have you been working in your current occupation/role? Please choose one of the below options**

- Less than one year
- 1-2 years
- 5-10 years
- More than 10 years
- 3-4 years

**\* Q5. Which of the following CSP training and development courses have you done in the last 3 years? You may choose more than one from the list below.**

- Paediatric Life Support
- Advanced Paediatric Life Support
- Generic Instructor Training
- Emergency Management of Severe Trauma
- ED: Triage, patient registration, patient flow, data management, bed block, department preparedness, equipment usage
- Basic Assessment & Support in Intensive Care
- ICU: equipment, staff management, trauma, management of sepsis, respiratory illness
- Essential Obstetric Care
- Emergency Obstetric Care
- Birthing Suite Courses (Room Readiness, Leadership, Respectful maternity care)
- Anaesthetics Remote COVID-19 Support Forum
- Postgraduate Diploma in Emergency Medicine Facilitators Conference
- Essential Emergency Care Systems Training Program
- Primary Trauma Care
- TB management
- Other type of CSP training not listed above (please specify)
- None of the above

## **VALUATION OF THE CLINICAL SUPPORT PROGRAM SKILLS DEVELOPMENT**

**In the following questions please select the best response to each of the statements made about the training you received. If you participated in more than one course, please provide an overall assessment (or all the training you received).**

**Q7. The content of the training was relevant to my job/role**

- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Neither agree nor disagree

**Q8. The training enhanced my existing understanding and skills**

- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Neither agree nor disagree

**Q9. I was able to practice what I learnt almost immediately in my current job/role**

- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Neither agree nor disagree



**Q10. I have been able to transfer what I learnt to my work colleagues and junior staff**

- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Neither agree nor disagree

**Q11. I now feel more confident in performing my job**

- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Neither agree nor disagree

**Q12. Mentoring and supervision continued after the training I received to support and evaluate my competence.**

- Strongly agree  Disagree
- Agree  Strongly disagree
- Neither agree nor disagree

**Q13. Please describe briefly what were the main things that changed for you (your understanding, skills, practice) after receiving the training ...**

**Q14. Please describe, from your personal experience, how the training through the CSP could be improved in the future**

**Thank you for your time in participating in the survey. Your answers will help us immensely in the evaluation of the CSP. We will try to ensure the evaluation results are made as widely available as possible.**

**Please scan the completed form and send to:**

**[lee.ridoutt@hrda.com.au](mailto:lee.ridoutt@hrda.com.au)**

## Annex C. List of persons consulted in PNG

Order	Interview subject/s	Position/Role	Organisation
1.	Dr Lara Andrews	Counsellor Health Security Program PNG	DFAT
2.	Dr Dora Lenturut Katal	Acting Chief Medical Officer	NDoH Executive Management
3.	Dr Goa Tau	Deputy Health Secretary Director of National Health Standards	NDoH Executive Management
4.	Dr Kone Sobi	Director of Medical Services	PMGH
5.	Randy Moke	TB Specialist	PMGH
6.	Dr Gabrielle Ak	Pathologist	PMGH
7.	Dr Jacklyn Joseph	Manager Pathology Services	PMGH
8.	Dr Karl Kingston	Emergency Physician Chair of Clinical Partnership (CSP/JID)	PMGH
9.	Mr David Dunn	Project Manager	JID PNG
10.	Melinda Kanamon	Manager of Commissioning Operational Readiness Framework (CORF)	JID PNG
11.	Mr Aung Kumal	Acting Director Corporate Services	Morobe PHA
12.	Dr Kipas Binga	Acting Chief Executive Officer (CEO)	Morobe PHA AMPH
13.	Sr Conceila Amnol	Acting Hospital Manager (Ex-Director of Nursing Services)	Morobe PHA AMPH
14.	Sr Diana Samai	Acting Deputy Director Nursing – Administration	Morobe PHA AMPH
15.	Mr Steven Polis	Acting Director of Nursing Services	Morobe PHA AMPH
16.	Sr Julie Naimini	Nurse Unit 3 Supervisor Emergency & Medical	Morobe PHA AMPH

Order	Interview subject/s	Position/Role	Organisation
17.	Dr Francisca Failing	Paediatric Unit Coordinator	Morobe PHA AMPH
18.	Sr Teba Anterea	Nurse Manager Special Care Nursery	Morobe PHA AMPH
19.	Dr Winnie Sadua	Paediatric Consultant and Head of General Paediatric Ward	Morobe PHA AMPH
20.	Sr Nane Buni	Nurse Manager Paediatric Ward 4BC	Morobe PHA AMPH
21.	Sr Waku Albert	Nurse Manager Children's Outpatient Department	Morobe PHA AMPH
22.	Sr Mirir Waekesa	Central Sterilizing Unit Nurse Manager	Morobe PHA AMPH
23.	Sr Blendinah Jim	Acting Manager Surgical Ward	Morobe PHA AMPH
24.	Sr Stephanie Damo	Acting Deputy Director Nursing - Clinical	Morobe PHA AMPH
25.	Sr Dorcas Botty	Acting Nurse Manager Operating Theatre	Morobe PHA AMPH
26.	Norah Hau'ofa	Clinical Support Program Manager	JID
27.	Ezekiel Tetang	CSP Coordinator Morobe	JID
28.	Douglas Apeng	Momase Coordinator	PATH
29.	Sr. Sembe Mozenga	Acting Nurse Manager Labour Ward	Morobe PHA AMGH
30.	Sr Janlyn Norman	Unit Supervisor Obstetrics and Gynaecology	Morobe PHA AMGH
31.	Sr Helen John	Gynaecology Nurse Manager	Morobe PHA AMGH
32.	Sr Florence Nick	Obstetric and Gynaecologist Clinic Manager	Morobe PHA AMGH
33.	Sr Bing Titus	Training Coordinator Nursing	Morobe PHA AMGH
34.	Sr Rose Mathias	Acting Nurse Manager Intensive Care Unit	Morobe PHA AMGH

Order	Interview subject/s	Position/Role	Organisation
35.	Dr Violet Rongap	Anaesthetic Specialist/Consultant Head of Intensive Care Unit	Morobe PHA AMGH
36.	Sr Wilma Sebby	Nurse Manager Accidents and Emergency	Morobe PHA AMGH
37.	Professor Isi Kevau	Professor of Internal Medicine	PMGH/SMHS
38.	Professor Glen Mola	Head of Obstetrics and Gynaecology	PMGH/SMHS
39.	Professor Nakapi Tefuarani	Executive Dean of School of Medicine and Health Sciences	SMHS
40.	Dr Victor Temple	Head of Basic Medical Sciences	SMHS
41.	Dr Philip Kigodi	Head of Division Health Sciences (Pharmacy, Medical Laboratory Science, Medical Imaging)	SMHS
42.	Willie Nagani	Medical Imaging Sciences	SMHS
43.	Professor Georgia S Guldán	Professor of Public Health	SMHS
44.	Dr Nancy Buasi	Head of Nursing Division	SMHS
45.	Sr Gracelyn Potjepat	Team Leader Critical Care Nursing	SMHS/PMGH
46.	Sr Lilian Temo	Midwifery Program	SMHS/PMGH?
47.	Sr Gebo Nanu	Child Health Program Nurse Supervisor	SMHS/PMGH
48.	Mr Tindini Ambuari	Discipline Leader Mental Health Nursing	SMHS/PMGH
49.	Jessica Yaipupu	Technical Officer Women's Health and Gender	WHO PNG
50.	Dr Rashid Abdur	Technical Officer Malaria	WHO PNG
51.	Dr Madeline Salva	Medical Officer Reproductive Maternal Neonatal Child Antenatal Health	WHO PNG

Order	Interview subject/s	Position/Role	Organisation
52.	Anna Maalsen	Team Leader Universal Health Coverage, Life-course and Healthier Populations	WHO PNG
53.	Priya T Balasubramaniam	Clinical IPC Lead COVID-19 Response	WHO-PNG
54.	Okech Mollent	HR Technical Officer	WHO-PNG
55.	Mr Roderick Salenga	Technical Officer Pharmaceutical	WHO-PNG
56.	Dr Jadambaa Narantuya	Medical Officer TB/Leprosy	WHO PNG
57.	Dr Al Maha	Chief Physician	NDoH
58.	Dr Desmond Aisi	Acting Chief Emergency Physician	NDoH
59.	Dr Nora Dai	Chief Anaesthetist	NDoH
60.	Dr Dora Lenturut Katal	Acting Chief Medical Officer	NDoH
61.	Nanda Maharjan	Deputy Project Manager	HSSDP

## Annex D. List of persons consulted in Australia

Date	Interview subject/s	Position/Role	Organisation
1.	Michelle Rumsey	Director	WHO CC for Nursing, Midwifery and Health Development, UTS
2.	Darren Morgan	Contractor, ANGAU Redevelopment	JID
3.	Charlene McCloud	Lead Health Advisor for CSP	JID
4.	Norah Hau'ofa	In-country CSP project manager	JID
5.	David Waters	Surgeon	RACS
6.	John Crozier	Surgeon	RACS
7.	Robyn Whitney	Manager, Program and operations, Global Health	RACS
8.	Philippa Nicholson	Head, Global Health	RACS
9.	A/Prof Ram Nataraja	Paediatric surgeon	Monash Children's Hospital and Monash University
10.	Sarah Korver	Manager, Global Emergency Care	ACEM
11.	Jesse Dean	General Manager, Policy and Regional Engagement	ACEM
12.	Dr Dani Lim	Infectious disease specialist	Burnet Institute
13.	Naomi McLean	Project manager, Global initiatives	ANZICS
14.	Catherine Tacon	Intensivist	ANZICS
15.	Andy Macey	Clinical educator	ANZICS
16.	Ruth Melville	Clinical Nurse Consultant	ACORN

## Annex E. Key Informant Interview Guide

### Interviewer Details

Name:

Position:

Organisation:

Location:

### Key Evaluation Questions

#### 1. To what extent were the design and implementation of the Program appropriate and relevant?

*Relevance:* Did the CSP investment focus on the right issues to increase the quality of training and the skills and competencies of clinicians at ANGAU and PMGH and students at SMHS? Were there expected/unexpected changes in the broader PNG or health context that affected program implementation and what was the impact?

#### Probe questions

- a. To what extent did CSP align its objectives with the PNG National Health Plan, CSEP and DFAT's Health Portfolio Plan? Could you give an example where you feel they are aligned and, if relevant, where you feel they are not aligned and why?
- b. How were priorities for capacity building set? Was that appropriate?
- c. How relevant and appropriate is CSP in facilitating quality training and upskilling with clinical competencies of clinicians at ANGAU and PMGH and students at SMHS and primary health care workers in building the PNG Health workforce?
- d. To what extent were the partners and activities appropriate and relevant to achieve the program outcomes? (Timeline, bought expertise and budget?)
- e. To what extent were governance, coordination, and financial management arrangements – including the use of government systems - appropriate and sufficient?
- f. To what extent did the CSP incorporate gender equality, disability inclusion, etc.

#### 2. To what extent was implementation of the Program effective and efficient?

*Effectiveness:* What did the CSP investment achieve? What were the major factors influencing the achievement or non-achievement of the objectives?

*Efficiency:* Were the intended CSP outcomes achieved in the most efficient way in terms of the suitability of partners/implementers and people in place as capacity builders?



### Probe questions

- a. What were the most significant results achieved by CSP investment? Did these meet the expectations of the proposed CSP outcomes?
- b. What were the major factors influencing the achievements or non-achievements of CSP outcomes? (Timely disbursement of funds against milestones, adequately resourced, working relationship with partners, etc)?
- c. Were project inputs and activities achieved in cost efficient and timely way?
- d. Were the program management arrangements appropriate in supporting delivery of activities?

### **3. What impact did CSP have on PNG HCWs clinical skills, health services, and health outcomes**

#### Probe questions

- a. To what extent did CSP meet its objectives in facilitating quality training and clinical upskilling of clinicians?
- b. To what extent did the overall patient care change/improve?
- c. How were the impacts of CSP measured? How was clinical competency measured?
- d. To what extent are the upskilling/trainings replicable to sustain quality health service and improved health outcome?
- e. To what extent have implementing partners facilitated national and provincial health ownership?
- f. What do you see as the main facilitators and barriers in ensuring sustained outcomes of CSP?
- g. Where do you feel the CSP has been most successful? Do you have any recommendations for future improvement?

### **4. Did the Program strengthen national and provincial leadership and capacity in clinical governance and accountability, particularly in planning, budgeting, and monitoring and training?**

#### Probe questions

- a. To what extent did the CSP align with the health priorities and/or respond to requests of governance, accountability and gender diversity, social inclusion and disability?
- b. To what extent did the CSP strengthen leadership capacity both at the national and provincial health levels, particularly in capacity building, planning, budgeting, and monitoring, etc?
- c. To what extent are CSP achievements in relation to leadership, capacity, and coordination likely to be sustained?
- d. Were there any institutional linkages developed and maintained?

## Annex F: Key outputs in Phase 1 against End of Program Outcomes

Drawn from RACS End of Program Report 31 March 2022

End of Program Outcomes (EoPOs)	Key outputs against EoPOs 2018-2021
<p><b>EoPO 1</b></p> <p>Increased overall organisation effectiveness and accountability in ANGAU Hospital, fully utilising its redevelopment and in PMGH and SMHS</p>	<ul style="list-style-type: none"> <li>• Australasian College for Emergency Medicine (ACEM) volunteers developed short-term recommendations to improve the Emergency departments, at both AMPH and PMGH.</li> <li>• Systems assessment tools were completed for both AMPH and PMGH Emergency Departments, with short and medium-term outcomes identified to improve patient triage systems and overall clinical space.</li> <li>• 11 (9-m, 2-f) Emergency Physicians were trained to be Post Graduate Diploma of Emergency Medicine (PGDEM) Supervisors to ensure program consistency across PNG.</li> <li>• 1 (m) Emergency Physician has completed the PGDEM at AMPH.</li> <li>• 7 (2-m, 5-f) candidates qualified as Advanced Paediatric Life Support (APLS) Generic Instructor Course (GIC) Instructors, with full status being awarded at the completion of 2 APLS provider courses under supervision.</li> <li>• 11 (3-m, 8-f) candidates were identified to complete the APLS GIC courses prior to the pause in activity implementation in early 2020.</li> <li>• The “Anaesthesia and Intensive Care Standard Operating Procedures: Guidelines for Port Moresby General Hospital during the COVID-19 pandemic” was created and distributed nationally to ensure consistency across PNG.</li> </ul>
<p><b>EoPO 2</b></p> <p>Increased specialty and subspecialty skills and competencies in ANGAU Hospital, fully utilising its redevelopment and in PMGH and SMHS</p>	<ul style="list-style-type: none"> <li>• 4 PNG General and Paediatric Surgeons/Trainees (3-m, 1-f) and 3 Surgical Trainees/Registrars (3-m) from AMPH and PMGH were supported to improve core paediatric surgical competencies and were mentored through major elective surgeries.</li> <li>• 144 participants (71-m, 73-f) were trained in Paediatric Life Support (PLS) at AMPH and</li> </ul>

End of Program Outcomes (EoPOs)	Key outputs against EoPOs 2018-2021
	<p>PMGH including Doctors, Nurses, Paramedics, Anaesthetic Scientific Officers.</p> <ul style="list-style-type: none"> <li>• 3 local PLS instructor candidates progressed to full instructor status.</li> <li>• 1 local course Director candidate (1-m) was mentored during GIC and PLS courses and directed the full PLS course on the final day.</li> <li>• 2 potential APLS instructor candidates attended the PLS course as faculty.</li> <li>• Local faculty increased to 40% of the APLS Faculty team.</li> <li>• 171 (66-m, 71-f, 33-unidentified) PNG health professionals were supported and mentored across the reporting period.</li> <li>• 44 (14-m, 30-f) nurses participated in the first PNG BASIC training to enhance skills and knowledge of Paediatric Critical Care Nursing.</li> <li>• 1 (m) surgeon completed the requirements for all surgical specialties and clinicians caring for trauma patients and passed the Emergency Management of Severe Trauma (EMST) course.</li> <li>• 33 PNG Anaesthetists and Intensivists logged in remotely for the Anaesthetists Remote COVID-19 support forum.</li> <li>• Procurement of Orthopaedic equipment and trays and instruments across 5 specialties delivered to AMPH, with training provided by the supplier.</li> </ul>
<p><b>EoPO 3</b></p> <p>Increased competencies in cross-cutting clinical best practice in ANGAU Hospital, fully utilising its redevelopment and in PMGH and SMHS</p>	<ul style="list-style-type: none"> <li>• 2 short courses were delivered, aligned with internationally recognised best practice response to trauma and life support and the Regional Standards Framework as a benchmark for quality and consistency for the region.</li> <li>• One Primary Trauma Course (PTC) course was held at PMGH with 18 doctors from 7 provinces completing training as PTC instructors (6- PMGH, 4-ANGAU, 8 -Other).</li> </ul>

End of Program Outcomes (EoPOs)	Key outputs against EoPOs 2018-2021
	<ul style="list-style-type: none"> <li>• 21 Nursing Officers and 2 patient service representatives at PMGH attended 1 workshop on the WHO ‘Five Moments of Hand Hygiene’ as well as training on Clean Hands Save Lives.</li> <li>• 3 specialist cross-cutting short courses in intensive care were delivered, with the view to continue to roll out and identify PNG instructors to continue the course independently in 5 years.</li> </ul>
<p><b>EoPO 4</b></p> <p>Increased primary health care skills and competencies in relevant urban health centres in Lae fully utilising ANGAU Hospital redevelopment</p>	<ul style="list-style-type: none"> <li>• 8 CHWs from Morobe Province, were supported to complete a six-month placement at AMPH where they were trained in maternal and newborn care skills.</li> <li>• 3 (m) PNG Emergency Physicians from urban health centres participated in the PGDEM Supervisors training.</li> <li>• 2 (f) PNG APLS Faculty members were from urban health centres, with 3 PNG Nursing Officers, 1 Health Extension Officer and 2 Registrars from urban areas attending the APLS course, with the view to ensure the local faculty team and participants include health professionals from urban health centres to widely transfer the knowledge.</li> </ul>
<p><b>EoPO 5</b></p> <p>Men and women equally utilising improved leadership and clinical skills within ANGAU Hospital, fully utilising the redevelopment and within PMGH and UPNG</p>	<ul style="list-style-type: none"> <li>• 101 (m) and 141 (f) PNG clinicians were trained across the life of the program.</li> <li>• Patient data is broken down by gender, 60 operations (41-m, 19-f) and 124 consultations (72-m, 42-f).</li> <li>• 44 (14-m, 30-f) nurses participated in the first PNG Basic Assessment and Support in Intensive Care (BASIC) training courses in Lae.</li> <li>• 34 out of 81 RACS Specialist Volunteers deployed to PNG were female.</li> </ul>

## Annex G: CSP Phase 2 progress up to July 2022 in the four domains

Activity areas	Progress against the four activity areas from March 2020-July 2022
<p>Training/Professional Development for AMPH staff</p>	<ul style="list-style-type: none"> <li>• Five units have participated in <b>formal training/development sessions</b> – including staff from Maternity Services – Labour Ward, Obstetrics and Gynaecology, Ante-natal Ward; Emergency Care (EC); Paediatrics – Special Care Nursery (SCN), Children’s Outpatients Department (COPD), Paediatrics Inpatients Ward; Operating Theatres; Tuberculosis (TB) clinic; Pathology.</li> <li>• Over 35 sessions of training delivery across five units. <ul style="list-style-type: none"> <li>○ <b>Maternity Services</b> – 9 sessions held with over 30 staff (70% female) participating.</li> <li>○ <b>Paediatrics</b> – over 10 sessions held with over 50 staff (75% female) participating.</li> <li>○ <b>Operating Theatres</b> – 12 sessions with 28 staff (82% female) participating.</li> <li>○ <b>Emergency Care</b> – over 10 sessions held with over 34 staff participating, 81% of EC staff completed one or more training course.</li> </ul> </li> <li>• <b>Training for midwives:</b> partnership with WHO Collaborating Centre at the University of Technology Sydney (WHOCC UTS), over 30 midwives at AMPH completed Emergency Obstetric Care (EmOC) and Essential Obstetric Care (EOC) priority training, and instruction for new equipment and facilities. Improved standard of patient care and increased level of confidence is reported as evident amongst midwives with 80% improvements and changes to practice sustained over the following six-month period. This training has been consolidated through use of maternity care modules on the Kumul Helt Skul (KHS) platform and has supported the development of a package of Obstetric and Midwifery Clinical Practice Guidelines for AMPH.</li> <li>• <b>Emergency Department:</b> Australasian College for Emergency Medicine (ACEM) developed the Essential Emergency Care Systems Training Program that incorporated online content on the KHS platform</li> </ul>

Activity areas	Progress against the four activity areas from March 2020-July 2022
	<p>consolidated by live sessions, and face to face learning opportunities. Additional face to face training was developed based on identified local needs, and delivered to staff from EC, Birthing Suites, Paediatric Ward and SCN. Ninety four percent of AMPH EC staff attended one or more live training sessions.</p> <ul style="list-style-type: none"> <li>• ACEM developed a scoping report for the commissioning of the new emergency department at AMPH which was endorsed by the AMPH Executive. The following activities were for both AMPH and PMGH: development and delivery of 10 modules for KHS to familiarise Emergency Department (ED) staff with contemporary models of care and management within an ED setting; undertook preparatory activities for the implementation of the Interagency Integrated Triage Tool (IITT), mentored staff during initial use of the IITT and supported team leaders and management staff with departmental flow using the IITT; and, developed the patient registration and triage form (PRTF) which also collected clinical data that could be used to inform clinical care. All EC staff participating in the training agreed that the new triage and flow system has improved patient flow in the ED and improved their job satisfaction.</li> <li>• <b>Paediatric Department:</b> Monash Children’s Hospital Simulation developed and delivered training to paediatric unit staff via online platform. Over 50 staff from the AMPH SCN, COPD and paediatric ward have been involved in the training delivered to date. Also developed 19 standard operating procedures (SOPs) to complement the PNG Standard Clinical Practice Guidelines resource where there was extensive consultation with senior AMPH staff.</li> <li>• <b>Intensive care:</b> The Global Health Special Interest Group of the Australian and New Zealand Intensive Care Society developed a scoping study focusing on the commissioning of the new intensive care unit at AMPH. The scoping study was endorsed by the AMPH Executive. No in-country activities were conducted as part of the CSP.</li> <li>• <b>Perioperative care:</b> The Australian College of Perioperative Nurses (ACORN) advised on perioperative care to enable the commissioning of the new operating</li> </ul>

Activity areas	Progress against the four activity areas from March 2020-July 2022
	<p>room suite and central sterilising unit at AMPH and developed online learning modules for the AMPH operating theatre and Central Sterile Services Department staff. Development of a monitoring and evaluation framework including a governance structure and risk management plan, implementation of perioperative and central sterilising unit standards for practice and an associated education program, development of guidelines and processes to support nursing management and leadership inclusive of workflows, emergency responses, staffing, data management and operating room suite activity indicators, and development and implementation of standard operating procedures and procedures regarding the new furniture, fixtures and equipment.</p> <ul style="list-style-type: none"> <li>• <b>Tuberculosis (TB) management</b> - The Burnet Institute supported the Morobe PHA and AMPH executive and clinical teams to better manage the inpatient burden of tuberculosis with a rapid review, leading up to the handover of the new TB inpatient ward. Based on limited needs assessment and data, and limited external engagement, recommendations were made.</li> </ul>
<p>Design, development and implementation of the COVID-19 Healthcare E-Learning Platform (CoHELP)</p>	<ul style="list-style-type: none"> <li>• The CoHELP platform provides virtual training for clinicians on topics regarding the treatment and management of COVID-19 and demonstrated that PNG clinicians will utilise technology to learn. CoHELP is based on an open-source low-cost learning management system (LMS) Moodle system. The PNG National Department of Health and WHO PNG and WHO Western Pacific Regional Office reviewed and endorsed the content available on CoHELP.</li> <li>• Regular feedback from PHAs across PNG noted that, when participants can access the LMS, the content is excellent and very well received. Many participants reported considerable challenges accessing reliable internet despite JID providing some data support.</li> <li>• 408 registered participants (55% female), 89% of registrants from PNG from a range of healthcare disciplines.</li> <li>• Live modules delivered included Introduction to COVID-19, Infection Control Basics, Principles of Outbreaks,</li> </ul>

Activity areas	Progress against the four activity areas from March 2020-July 2022
	<p>Infection Control Management, Clinical Management Basics, Pregnancy and Birthing, Emergency Department, Adapting Essential Services, Clinical Management Advanced, Vaccination, Intensive Care Units (ICU), Adapting Child Health, Theatre Management, Diagnostics and Testing.</p> <ul style="list-style-type: none"> <li>• Training sessions ran from June 2020, and included weekly live and recorded seminars, additional resources and discussion forums.</li> <li>• Review of CoHELP modules completed and the development of a new module on vaccination developed with NDoH and WHO approval.</li> <li>• Two full program runs of 15 modules completed.</li> <li>• Program provided increased support for Morobe PHA COVID-19 preparedness and response including surveillance, clinical management, infection prevention and control, staff training and establishment of triaging, quarantine and isolation protocols.</li> <li>• Final evaluation indicated an increase in understanding of how to treat and manage COVID-19 along with other benefits – flexible timing, availability of resources, meeting PNG and international experts in various fields related to COVID-19. Changes to clinical practice were recorded in relation to maintaining infection prevention and control measures, adapting to new challenges and rearranging health services to cope with patients with COVID-19.</li> </ul>
<p>Design, development and implementation of the Kumul Helt Skul (KHS) learning management system</p>	<ul style="list-style-type: none"> <li>• KHS is a digital learning platform to enable professional development for PNG health workers. The mobile platform is designed to provide engaging, accessible micro-learning experiences in low bandwidth environments.</li> <li>• The focus of the training is for AMPH; however, the design recognises the broader system of service delivery both at AMPH and at the provincial and national level. All education and training materials developed are designed for applicability to the broader Morobe province and PNG as a whole.</li> </ul>



Activity areas	Progress against the four activity areas from March 2020-July 2022
	<ul style="list-style-type: none"> <li>• 5 modules developed and published: <ul style="list-style-type: none"> <li>○ Emergency Department (10 courses)</li> <li>○ Maternity and Leadership (3 courses)</li> <li>○ Drug Resistant TB (1 course)</li> <li>○ Operating Theatres and Central Sterilisation Unit (9 courses)</li> <li>○ Infection Prevention and Control (4 courses)</li> </ul> </li> <li>• 108 registered users at AMPH, 143 registered users at PMGH; of the total 151 registered users, 63% were female.</li> <li>• Majority (78%) of comments on Discussion Boards were made by females.</li> </ul>
COVID-19 CSP Pivot Training/Professional Development	<ul style="list-style-type: none"> <li>• Rapidly deployed technical expertise across AMPH and PMGH. Clinical and management support directed to three specialty areas in PNG: Emergency, Infectious Diseases, Infection Prevention and Control, and Maternity Services.</li> <li>• Fourteen (14) clinical specialists recruited, mobilised and deployed for up to 12 weeks from June to September 2021.</li> <li>• Management and clinical support to clinical partners and staff including PNG Health workers while working under challenging COVID-19 pandemic conditions.</li> <li>• Focus on capacity building, health system strengthening, coordination of care, health promotion and teaching, as well as patient advocacy.</li> <li>• EC -11 sessions delivered 2-3 times each, with 94% of EC staff attending at least one of the sessions. 7 clinical equipment training sessions delivered for staff of COPD and 1 clinical equipment training session delivered for staff of Labour Ward.</li> <li>• Maternity Services - 20 EmOC- related training sessions delivered, with 80 AMPH clinical staff from various units attending.</li> </ul>