



REPAIRING BODIES, REBUILDING LIVES

Although *Interplast* has a long history of engagement in the Pacific region, it has not previously examined the region's programs in a holistic way. After over three decades of Pacific programs, *Interplast* decided to step back and assess what has been achieved across the region, capturing the impact of its surgical & training programs on the lives of individuals, families and communities in six Pacific Island countries; Fiji, Kiribati, Samoa, Solomon Islands, Tonga and Vanuatu.

The purpose of the review was twofold; to assist *Interplast* in assessing the effectiveness of its programs, and to inform planning for future programs across the Pacific. Papua New Guinea is not included as a Pacific Island country for the purposes of the review.

Papua New Guinea was not included as a Pacific Island country for the purposes of the review. *Interplast*'s activities in PNG (dating back since 1985) have included both surgical service delivery programs as well as training activities in areas including general plastic and reconstructive surgery (and a range of sub-specialties within), orthopaedic hand surgery, hand therapy, anaesthetics, burns management and nurse education.

From August to early October 2018, the review team met with a broad cross-section of local partners people in each of the Pacific Island countries that are the subject of this review.

Interplast programs would not be possible without the substantial efforts of local partners in hosting visits by surgical teams and facilitating training opportunities, and by the support of the many volunteers. Their commitment and dedication to improving lives is the very essence of what *Interplast* achieve



Interplast[®]

INTERPLAST IN THE PACIFIC REGION

Interplast has been delivering surgical programs across Pacific Island countries since its first program activity in the region, in Fiji in 1983. Mentoring and workshops, nurse education and allied health training complement the program.

Through regular visits to Fiji, Kiribati, Samoa, Solomon Islands, Tonga and Vanuatu, *Interplast* volunteers work alongside local partners, helping to provide access to plastic and reconstructive surgical services where they otherwise wouldn't be available.

The Pacific region has a great number of skilled and committed medical practitioners; nurses, allied health professionals and surgeons, as well as nurse educators. In the case of surgeons, many have either qualified in plastic surgery, or specialised in performing techniques such as flap and cleft surgery, which they are able to perform where it is needed within their own communities. The skills of all of these professionals are in high demand, and they have worked tirelessly for many years to improve the health outcomes for people in their countries who require access to health care services, and to the provision and improvement of plastic and reconstructive surgical services. There is no doubting their commitment to their profession, their skills, and dedication to improving the lives of those in need of surgical services, nursing care and rehabilitation.

Dr Samuel Kemuel and Interplast: a long-term partnership delivering better access to plastic and reconstructive surgery for Vanuatu

Dr Samuel Kemuel's involvement with *Interplast* goes back to 2010, when he was a medical student in Fiji, and subsequently through his Masters of Surgery training through the Fiji National University. Dr Kemuel has continued his association with *Interplast* in his role as a surgeon at the Port Vila Central Hospital in Vanuatu. He was a participant in the 2012 training in Suva, the 2014 and 2017 Advanced Applied Reconstructive Surgical Skills workshops in Hobart. Dr Kemuel also undertook a 2-week observational placement in Perth in 2016. *Interplast* and Dr Kemuel are maintaining this partnership, with *Interplast*



continuing to provide him with training and mentoring, supporting him in developing his plastic and reconstructive surgical skills, and ultimately contributing to an improved surgical capacity in Vanuatu.

Dr Kemuel's basic plastic surgery training is advancing at good rate. He is now able to do cleft lip repairs unassisted demonstrating his advancement in training. During the visit, Dr Kemuel carried out his first major full thickness burns scar contracture release. Being able to undertake some of these procedures locally, between *Interplast* visits, marks a significant advancement in local surgical capacity in Vanuatu.

Dr Kemuel paid tribute to the partnership with *Interplast* volunteer, Dr Ian Holten, and the *Interplast* team:

Thank you so much Ian Holten and team for the wonderful work you are doing year in, year out for our people. We really appreciate your commitment and support.

Dr Kemuel is keen for *Interplast* to continue its visits so that he and the team can work together to undertake more cleft lip repairs, and the more complex cases. He also suggested that *Interplast* run more suturing and wound management workshops for the local trainees.

Fiji is the only Pacific Island country with any capacity to meet local need for specialist plastic and reconstructive services. At the time of the review, Fiji had one fully qualified plastic surgeon based in Suva; and a plastics and burns unit at the Colonial War Memorial Hospital. *Interplast's* aim is to support the unit so that Fiji can full develop the capacity to move toward sustainable plastic and reconstructive surgical services to meet local needs and potentially serve the broader region.

For other Pacific Island countries, *Interplast's* longer term objective is to train and mentor as many local general surgeons as possible in plastic and reconstructive surgical techniques, thus providing better access to these services for patients across the Pacific. The training is applicable in particular to wound management and simpler reconstructive procedures.

Interplast and local surgeon Dr Semesa Matanaicake Jnr: A long term partnership improving surgical capacity for Fiji and the Pacific region

A long term partnership between Dr Semesa Matanaicake Jnr and *Interplast* has supported Dr Semesa to become a plastic surgeon like his late father, building his capacity and skills in plastic and reconstructive surgery. Dr Semesa completed his Bachelor of Medicine/Bachelor of Surgery in 2002 and went on to complete his Masters in Surgery in 2011.



Interplast supported Dr Semesa's participation in a two-year training placement in Hobart where he trained as the Plastic Surgical Registrar at the Royal Hobart Hospital in 2013. On returning to Fiji, Dr Semesa re-established the

plastic and burns unit, which was originally established by his father, Dr Semesa Matanaicake Snr, at the Colonial War Memorial Hospital. He continues to work closely with *Interplast* to improve plastic surgery in Fiji. As a result of ongoing support from *Interplast*, Dr Semesa has attended multiple conferences in Australia including in October 2017 the Australia and New Zealand Burns Association conference in Adelaide.

Of his experience at the conference, Dr Semesa said:

I was able to meet various plastic surgeons at the conference to discuss the treatment of burns in Fiji and how Interplast has helped us train our multi-disciplinary team. I will be providing the Fiji Government also with a report regarding how Interplast helped in allowing me to attend this important conference.

Dr Semesa has returned to Fiji with a renewed sense of motivation to support the goals of the plastics and burns unit, and to advocate for further training for nurses and allied health, supporting the 'whole team' model of treatment which he observed during his time in Australia.

Dr Semesa remains a key local contact and is an integral part of *Interplast*'s Fiji programs. Not only is he working to provide plastic and reconstructive surgical services for Fiji and the Pacific region, he is also integral to developing Fiji as a training hub for the Pacific region. Once a participant, Dr Semesa is now part of the *Interplast* faculty, passing on his skills and training others during workshops. The successful partnership between a local champion such Dr Semesa and *Interplast* demonstrates what can be achieved by building local capacity to improve access to surgical services, not only for the people of Fiji, but for the Pacific region more broadly.

Fiji as a regional training hub

Since 2013, *Interplast* commenced formalising its training programs across the Pacific, using Fiji as a training hub, a location with the added benefit of giving access to training for surgical trainees who are studying at the Fiji National University. *Interplast* has delivered a number plastic surgical skills workshops to these trainees; three advanced reconstructive surgical skills workshops that were delivered in Hobart in 2013, 2014 and 2017; and one clinical flap course that was delivered in Apia, Samoa in 2016. In recent years *Interplast*'s Pacific activities have expanded to include programs to develop the skills of nurses and physiotherapists, and speech therapy training. *Interplast* also conducts an annual allied health workshop in Fiji which is integrated into Fiji National University's physiotherapy course. When resources allow, *Interplast* supports a number of Pacific Island medical professionals to undertake professional development and training in Australia and New Zealand.

Interplast's Chief Executive Officer, Ms Prue Ingram, expressed her hope for the Pacific region:

[I hope that] the Pacific region develops its capacity ensuring greater sustainability and local ownership. One possible means of achieving this could be to fully develop the capacity of Fiji as the 'hub and spoke' model, one that can provide training and outreach surgical services for other countries in the region and thus reduce the need for visiting teams from Australia & New Zealand. Not only plastics and reconstructive surgery but potentially for other surgical specialties.¹

¹ Ms Prue Ingram, CEO *Interplast*. Interview, February 2019
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Country contexts

Pacific Island countries have limited resources. As populations are small and, in some cases, isolated, delivering surgical services remains a strong focus for *Interplast* in the region. As it will be some time before there is sufficient capacity in the region to meet the need for surgical and reconstructive services, *Interplast*'s medium term focus is on facilitating access to treatment. This will likely change as more surgeons are trained in plastic and reconstructive surgery.

In general terms, whilst some of the six countries have better resourced and functioning health systems and infrastructure than others, most face similar population health challenges; increasing rates of non-communicable diseases such as diabetes and related conditions; cardiovascular disease; and increasing rates of obesity and related conditions. These factors place growing pressure on health systems that, in some cases, are already struggling to meet the demands placed on them. Some countries also lack basic services for cancer, diabetes and heart patients, which means many have to travel considerable distances for screening and treatment. Escalating costs associated with treating end-stage non-communicable diseases is placing a major financial burden on health systems.

Health indicator comparative table

	Health expenditure, % of GDP 2015 (Table 8)	Health expenditure, % of GDP 2017***	Gross National Income per capita 2017 ² Table 1 (SDG8.5)
Fiji	3.6	4.5	8,324
Kiribati	7.6	10.2	3,042
Samoa	5.6	7.2	5,909
Solomon Islands	8.0	5.1	1,872
Tonga	5.9	5.2	5,547
Vanuatu	3.5	5.0	2,995
Australia	9.4	9.4	43,560

² Measured in 2011 PPP\$-purchasing power parity, provides a measure of price level differences across countries https://siteresources.worldbank.org/ICPINT/Resources/270056-1255977254560/6483625-1338834270350/FVogel_WhatIsPurchasingPowerParity.pdf accessed 6 December 2018

Fiji

Fiji is one of the most remote countries in the world- New Zealand is 2,000 km away, and Australia 3,000 km away.³ Other than Papua New Guinea, Fiji has the largest population in the Pacific, estimated at 902,457, spread across its islands.⁴

Fiji has a low level of extreme poverty, at 2.3% of the population, and 15.1% living in poverty. Its 'basic needs' poverty rate declined from 40% to 34% between 2002 and 2013⁵. Its economic growth and investment has been hampered by natural disasters and political instability.⁶ Outcomes for education are strong with most students completing school, and there is little variation in outcomes according to gender. Health outcomes are less impressive. Despite 75% of the population reported as having access to health care services, the disadvantaged have limited access to higher quality health services. Health care costs are also high relative to incomes for all income levels, and aggregate health outcomes are poor.⁷ In 2017, government expenditure on health was 4.5% of GDP. Total health expenditure per capita is US\$204,⁸ and at 2010 (the most recent data available), Fiji had 0.4 physicians per 1,000 people.⁹

Kiribati



Kiribati comprises 32 low-lying atolls (of which 22 are inhabited) and the raised phosphate island of Banaba. It is vulnerable to rising sea-levels and extreme weather events, including those resulting from climate change. Delivering services to its widely scattered population is challenging and costly, especially transportation and communication services.¹⁰ At July 2018, Kiribati's population was estimated to be 109,367.¹¹ As at 2017, the annual rate of population growth was 1.8%.¹² Kiribati has high levels of poverty and domestic overcrowding, particularly in the capital South Tarawa, with about 66% of its population rated being as poor or vulnerable.¹³ The rate of extreme poverty in Kiribati is 14.1%, with 34.7% living in poverty; urban poverty rates are 6.3%

³ World Bank Systematic Country Diagnostic 2017 Republic of Fiji

<http://documents.worldbank.org/curated/en/529271512123603244/pdf/116491-revised-PUBLIC-ACS.pdf> accessed 5 December 2018

⁴ Interplast Fiji and Pacific Regional Country Strategy July 2017-June 2020, p.2.

⁵ op.cit World Bank Systematic Country Diagnostic 2017 p.xi & p.xiii

⁶ ibid, p.xi

⁷ ibid, p.xiv

⁸ op.cit Interplast, p.2

⁹ UN data-a world of information <http://data.un.org/en/iso/ki.html> accessed 30 November 2018

¹⁰ World Health Organization Kiribati-WHO Country Cooperation Strategy 2018-2022, p.2

¹¹ Central Intelligence Agency [US] data World Fact Book https://www.cia.gov/library/publications/the-world-factbook/geos/print_kr.html accessed 30 November 2018

¹² op cit UN data-a world of information

¹³ op.cit World Health Organization Kiribati-WHO Country Cooperation Strategy 2018-2022

and rural rates are 20.7%.¹⁴ Kiribati has few natural resources and is one of the least developed of the Pacific Island countries.¹⁵ Its employment rate was estimated to be less than 50% of the working age population.¹⁶ Primary school retention rates in Kiribati are strong, with nine out of ten children enrolled completing primary education.¹⁷

Health remains a top priority for Kiribati's Government, receiving the second highest budget allocation for 2015 and 2016, with the education sector being the highest.¹⁸ In 2017 total health expenditure was 10.2% of GDP.¹⁹ Kiribati has 0.2 physicians per 1,000 people.²⁰ According to the World Health Organization, Kiribati is one of only three Pacific Island countries that did not achieve any of the health Millennium Development Goals.



Samoa

Samoa is a Polynesian Pacific country northeast of Fiji. The population of its four inhabited islands is estimated to be 201,316.²¹ Samoa's economy is highly vulnerable to external shocks due to its small population, limited resources and exposure to natural disasters. Extreme poverty is low, at 0.8% of the population, with 8.3% of the population living in poverty. Urban poverty is lower than rural poverty, at 0.3 and 1.4% respectively.²²

Samoa's remoteness poses challenges with trade and access to international markets, constraining economic growth. It struggles to generate sufficient employment, and less than 50% of working age people in Samoa are estimated to be employed.²³ Samoa's school enrolment rates are strong; primary school enrolment rates are at 95%, with completion rates at 84%, and secondary school enrolment rates at 80%.²⁴

In 2017, Samoa's spending on public health was 7.2% of GDP, with 0.5 physicians per 1,000 people based on 2010 data.²⁵ The most recent survey of Samoa's health workforce (covering the period between 1997 and 2010) found that there were 48 doctors, and 185

¹⁴ World Bank Group *Systematic Country Diagnostic January 20, 2016* (of eight small Pacific Island countries) defines extreme poverty as income of less than \$1.90PPP per day; poverty as less than \$3.10PPP per day, p.14 & p.17

¹⁵ World Bank *2018 Index of Economic Freedom*, p.244

¹⁶ op.cit World Bank Group *Systematic Country Diagnostic January 20, 2016*, p.9

¹⁷ ibid, pp. 49-50

¹⁸ op.cit World Health Organization *Kiribati-WHO Country Cooperation Strategy 2018-2022*, p.2

¹⁹ op.cit UN *data-a world of information*

²⁰ ibidem

²¹ op.cit Central Intelligence Agency [US] *World Fact Book*

²² ibid, p.14, p.17

²³ op.cit World Bank Group *Systematic Country Diagnostic January 20, 2016*, p.4 & pp.9-10

²⁴ ibid, p.50

²⁵ op.cit UN *data-a world of information*

nurses and midwives per 100,000 people. Samoa's referral hospital, the Tupua Tamasese Meaole Hospital in the capital Apia, is supported by district hospitals and health centres. Samoan tertiary health care is limited and mainly provided through an arrangement with New Zealand.²⁶ The Government of Samoa is prioritising health sector strengthening and reform, including the implementation of a postgraduate medical course at the National University of Samoa.²⁷

Solomon Islands

The Solomon Islands is a small, remote archipelago in the South Pacific with a population of 660,121, spread over nearly 1,000 islands.²⁸ An estimated 25.1% percent of Solomon Islanders live in extreme poverty, and 56.7% live in poverty. 70% of the population aged 15 years and over is in employment,²⁹ with its working-age population projected to grow rapidly over the coming decades. Its economic growth has declined, averaging only 2.9% for the last four years; at the same time the population has continued to increase at the rate of about 2% per year. Although school enrolment rates have improved, they are still comparatively low, with net primary enrolment rates at 88.4%, and secondary rates at 42.2%.³⁰

Despite its scattered low-density population, health services are accessible to most people. In 2017, expenditure on health was 5.1% of GDP, with 0.2 physicians per 1,000 people.³¹ Ministry of Health and Medical Services facilities, church-run hospitals and traditional treatments are used. The church provides training for some health workers. The Solomon Islands has 116 primary healthcare centres, 29 district-level referral hospitals, and 12 general hospitals.³²



²⁶ op.cit Interplast *Country Strategy Samoa July 2017-June 2020*, p.2

²⁷ ibidem

²⁸ op.cit Central Intelligence Agency [US] *World Fact Book*

²⁹ UNDP <http://hdr.undp.org/en/countries/profiles/SLB> accessed 30 November 2018

³⁰ ibid, p.17, p.33

³¹ op.cit *UN data-a world of information*

³² World Health Organization *Cooperation Strategy for Solomon Islands 2013-2017*, p.38 & p.18

Tonga

Tonga comprises 171 islands, of which only 45 are inhabited. Over two-thirds of its 106,398 people live on the island of Tongatapu.³³ Tonga's is vulnerable to natural disasters, the impacts of which have been the equivalent of 4.3% of its GDP.³⁴

Just over half of Tonga's working age population is in employment. In the five years to 2011, jobs had declined in Tonga, with the jobs gap increasing by 6%.³⁵ Extreme poverty is very low in Tonga, at 1.1%, while the rate of poverty is 8.2%, with rates being higher in rural outer islands compared to the main island. Tonga has sustained its net primary school enrolments, which in 2016 was 96%, and a primary completion rate of 90%. Secondary net enrolments for the same period were 83%.³⁶

In 2017, expenditure on health in Tonga was 5.2% of GDP, and in 2010 Tonga had 0.6 physicians per 1,000 people.³⁷ Tongans receive free health care at all hospitals and community health centre.



³³ op.cit Central Intelligence Agency [US] *World Fact Book*

³⁴ *ibid*, p.11

³⁵ op.cit World Bank Group *Systematic Country Diagnostic* January 20, 2016, p.9

³⁶ *ibid*. pp.14-15 & p.50

³⁷ op.cit *UN data-a world of information*

Vanuatu

Vanuatu comprises 83 islands and lies south of the Solomon Islands. At July 2018 its population was estimated to be 288,037, of which 25.3% is urbanised. Port Vila, on the island of Efate, is the capital.³⁸ As with other Pacific Island nations, Vanuatu is vulnerable to the effects of natural disasters, the impact of which on the economy is significant. In March 2015, Tropical Cyclone Pam struck Vanuatu, Tuvalu and Kiribati, and in Vanuatu resulted in an estimated US\$450 million in damage and losses, equivalent to 64% of its GDP.³⁹

Vanuatu's economic growth hasn't kept pace with the rapid population growth of 60 percent over 20 years.⁴⁰ Although over 65% of the working age population participated in employment, the 'jobs gap' increased by 20%.⁴¹ In 2010, Vanuatu had one of the highest rates of poverty in the Pacific region; 14.7% of the population was considered to be in extreme poverty, with 37.9% in poverty.⁴² At 88%, Vanuatu's net primary enrolment rate is low, with one in four children not completing this level of schooling, and the secondary enrolment rate of 52% amongst the lowest of the six study countries.⁴³

In 2017, Vanuatu's public spending on health was 5% of GDP, equivalent to US\$150 per capita, and it had 0.2 physicians per 1,000 people.⁴⁴ Between 1997 and 2010, Vanuatu had 12 doctors, and 170 nurses and midwives per 100,000 people. Vanuatu has four major types of health facilities: five hospitals, 27 health centres, 74 dispensaries and 180 aid posts. The two major referral hospitals are located in Port Vila and Luganville.⁴⁵



Vanuatu's health sector is undergoing significant reforms, and its Government has implemented a nationwide primary health care revitalisation program to improve access to essential health services and strengthen the health system.⁴⁶

³⁸ op.cit Central Intelligence Agency [US] *World Fact Book*

³⁹ *ibid*, p.11

⁴⁰ *ibid*, p4 & p.8

⁴¹ *ibid*, p.9

⁴² *ibid*, pp.14-15

⁴³ *ibid*, p.50

⁴⁴ op.cit *UN data-a world of information*

⁴⁵ *Interplast Country Strategy Vanuatu July 2017-June 2020*, p.2

⁴⁶ *World Health Organization Country Cooperation Strategy for Vanuatu 2013-2017*, p.38

Interplast programs in the Pacific region: activities and expenditure

Fiji

Interplast conducted its first program in Fiji in 1983, and since then the program has involved 327 volunteers; 109 surgeons, 120 nurses, 91 anaesthetists, three physiotherapists, three speech pathologists and one occupational therapist. Over 5,000 surgical procedures have been performed, and demand for *Interplast's* services remains high.



From 2014, *Interplast* commenced programs focusing on developing the skills of Fiji's nurses and physiotherapists, and training in speech therapy. A partnership between Ms Maria Waloki, now Assistant Professor-Physiotherapy, Fiji National University, and *Interplast* physiotherapy volunteer, Ms Jenny Ball has led to the implementation of week-long lectures and workshops for 4th year physiotherapy students, covering burns, hand trauma and cleft lip and palate (speech and feeding). The lectures and workshops

have been fully integrated into the physiotherapy degree offered by the Fiji National University.

Along with direct training provided by volunteers, many Fijian surgeons and surgical trainees have been involved in regional *Interplast* training programs run in Fiji, Samoa, Australia and New Zealand.

Kiribati

Interplast has been conducting programs in Kiribati since 1986, focusing on providing access to plastic and reconstructive surgical services. Limitations on funding and some constraints on local coordination reduced the program to biennial visits. *Interplast* programs in Kiribati have seen the participation of 83 volunteers; with teams comprising 33 surgeons, 22 anaesthetists and 28 nurses.

In 2014, *Interplast* initiated a nurse education program for nurses at the Tungaru Central Hospital, which it planned to provide at least once a year. Changes to staffing practices at the Hospital, where a core group of nurses have been assigned to a specialty department, has had a positive impact on the training model that *Interplast* has adopted.

Samoa

Interplast has conducted programs in Samoa from 1983, programs which have included an annual surgical and training visit, with additional training opportunities facilitated for Samoan surgical trainees in Australia, New Zealand, and other Pacific Island countries such as Fiji. *Interplast's* work in Samoa initially focussed on providing surgical services. Between 1986 and 2018, *Interplast* has sent a total of 104 volunteers to take part in the Samoan program. This includes: 46 surgeons, 31 nurses, 23 anaesthetists, two physiotherapists, one speech therapist and one specialist hand therapist. As of 2018, *Interplast* had performed over 1,315 operations.

In 2016 *Interplast* conducted an allied health mentoring program, which included tutorials and practical sessions. This program now runs every year, alongside the surgical training program. In 2017, *Interplast* commenced a nurse education program, reaching nurses working in the community, on wards, in the emergency department, operating theatres and in district hospitals.

In 1993, Samoa had only three surgeons working in the public hospital system. Their workload limited the time available to them to participate in training, hampering *Interplast's* ability to provide mentoring. Despite the limitations, *Interplast* was able to initiate a surgical mentoring program with a surgical registrar, Dr Isoli Vaai. In 2010, *Interplast* focussed efforts on education and training, recognising the skill and surgical capability of Samoan surgeon Dr Dyxon Hansell, for whom *Interplast* organised a dedicated training program. Dr Hansell undertook further training in New Zealand and returned to work in Samoa. Dr Hansell's successful training program has led to him developing formidable skills as a consultant surgeon. Since his participation in the training program, Dr Hansell has reduced his operating theatre time, having moved into a role in the local medical school in 2017, where he is now passing on his expertise and knowledge to the next generation of surgeons. Dr Petueli Emose has since become *Interplast's* key focal point in Samoa as he has declared an interest in plastics with support of management.



Solomon Islands

Interplast's programs in the Solomon Islands commenced in 1984, and since then it has generally conducted annual surgical and training visits, and provided additional training opportunities for Solomon Island surgical trainees in Australia, New Zealand, and other Pacific Island countries such as Fiji. In recent years, *Interplast* has implemented specific nurse training programs. Its visits have involved 99 volunteers including 43 nurses, 39 surgeons, 15 anaesthetists, an occupational therapist, and a physiotherapist. Between 1984 and 2018, *Interplast* volunteers performed over 1,175 surgical procedures.

There are currently no plastic surgeons in the Solomon Islands. Most of its surgeons are trained in Papua New Guinea, and this facilitates linkages and relationships- albeit limited- with the rest of the surgical fraternity in the Pacific Islands. At the Solomon Islands National Referral Hospital, *Interplast* teams have worked closely with consultant general surgeon Dr Rooney Jagilly, and general surgeon Dr Scott Siota. The team has treated a range of conditions; congenital hand deformities, cleft lip and palate,



hand injuries and burn contractures. As part of a 2013 and 2014 outreach program to Gizo, *Interplast* worked closely with Dr Greg Jillini, with Dr Siota travelling with the *Interplast* team. *Interplast* supports various aspects of the training of Solomon Island surgical trainees who are currently completing their education at the University of Papua New Guinea, and the Fiji National University.

From 2009 (with the exception of a gap in 2011 and 2012) *Interplast's* partnership with the nursing department of the National Referral Hospital has seen the delivery of a nurse training program, which included lectures covering infection control and hand hygiene. During 2014-15 the program broadened to include a volunteer podiatrist training local nurses in diabetic foot care and diabetes prevention, and in 2015-16 *Interplast* expanded the program to include participation by a volunteer breast care nurse. In 2016, *Interplast* conducted an allied health mentoring program, which later led to a longer physiotherapy course running concurrently with the surgical program.

Tonga

Interplast programs began in Tonga in 1984, and since then a total of 122 volunteers have participated; comprising 52 surgeons, 36 nurses, 31 anaesthetists and three physiotherapists. Between 1984 and 2018, *Interplast* volunteers performed over 1,608 surgical procedures. Following closure of the Anaesthetics Department of the Vaiola Hospital, *Interplast* has included a second anaesthetist on the visiting team.



During the 1980s and 1990s, *Interplast* conducted annual visits, focussing on surgical services, and providing lectures and clinical training. During the 2000s, *Interplast*'s collaboration with local doctors focussed on one-on-one mentoring support throughout the surgical trips, with ongoing contact via email correspondence.

Local surgeons have been instrumental in facilitating logistical support for *Interplast* visits. In 2005, the support of surgeons Drs Fakaosi Pifeleti and Samson Mesol made possible the concurrent running of two theatres and setting up the pre-op theatre for anaesthetic services; with Dr Pifeleti organising clinics, assisting in ward rounds and surgery, as well as accompanying the *Interplast* team on an outreach visit to Vava'u. In 2012, *Interplast* began working with local general surgeon, Dr Kolini Vaea, providing him with clinical training, and in

turn Dr Vaea supported *Interplast*'s programs by conducting pre-screening prior to visits.

In recent years, a new generation of surgical registrars have participated in *Interplast* programs, strengthening local capacity to deliver plastic and reconstructive surgery services in Tonga. *Interplast* anticipates that ongoing training and support will be required to develop these skills in the specialty area of plastic and reconstructive surgery.

Responding to a needs assessment in 2015 for physiotherapy training, *Interplast* began an annual allied health mentoring program alongside its surgical programs. Working in collaboration with nurse training educators, in 2018 *Interplast* commenced a nurse training program, training 21 nurses in leadership skills, basic life support, wound and stoma management and hand hygiene.

Vanuatu

Interplast's first program to Vanuatu was in 1985. Since then it has delivered 32 programs, reaching 1,833 patients and performing 1,155 operations. The Vanuatu program has been made possible by 98 volunteers; 36 surgeons, 37 nurses, 24 anaesthetists and one physiotherapist.

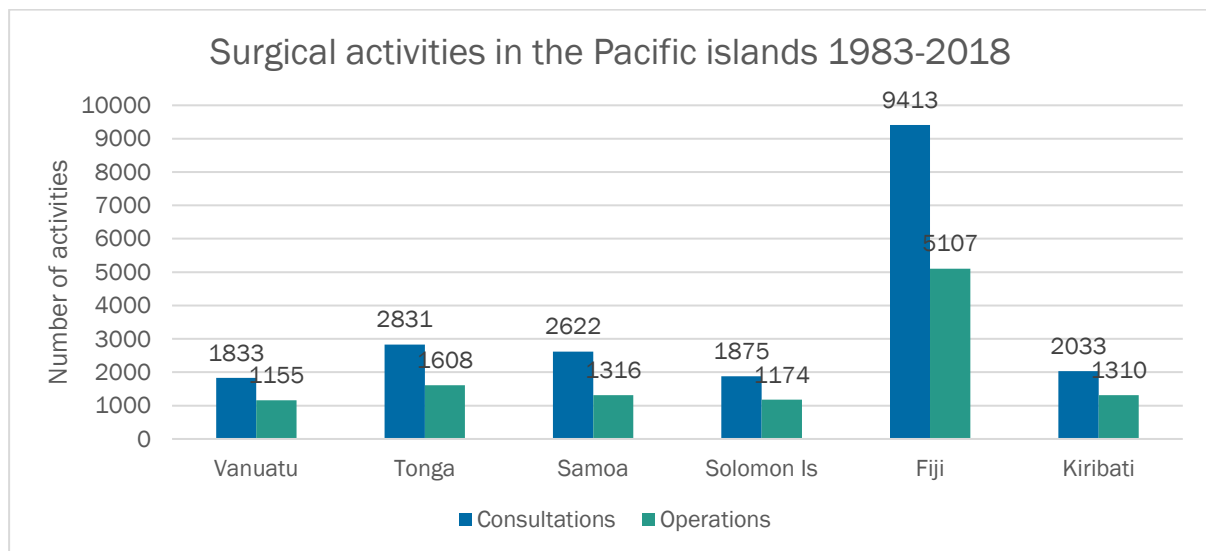
Interplast visits have focussed on the Port Vila Central Hospital, and the outer islands of Santo, to the Northern District Hospital, and the Lenakel Hospital on Tanna Island. Travel distances have hampered the reach of *Interplast* programs, and poor hospital resources have restricted the types of surgery that can be safely undertaken. In 2003, *Interplast* ceased its outreach program to the Lenakel Hospital, and instead had patients transferred to Port Vila.

Interplast's Vanuatu program has largely focussed on surgical visits, with surgical mentoring, anaesthetic nurse training and central sterilising service department lectures, and clinical training during general plastic and reconstructive surgery programs. Surgical mentoring programs targeting Dr Sam Kemuel being in August 2016.

Interplast has also worked to build capacity in allied health services. In 2015, a needs assessment ascertained that physiotherapy services were limited to Port Vila, where there were only three physiotherapists, resulting in the implementation of physiotherapy mentoring programs, delivered bi-annually in 2016. The programs focus on splinting, burns rehabilitation and flexor tendon injuries, giving participants greater confidence in treating post-operative patients who have been treated by *Interplast* volunteers.

In 2018, a needs assessment helped *Interplast* identify training needs of nurses, and this resulted in *Interplast* implementing a training program to help improve nursing skills. The program is viewed by participating nurses as being successful, and they have expressed interest in future programs, different modes of teaching and learning, inclusion of staff from other departments and greater information on *Interplast* cases.





Program spending in the Pacific, by country AUD

	2018	2017
Fiji*	159,510	145,888
Kiribati	12,798	62,496
Samoa	44,580	51,689
Solomon Islands**	94,970	18,591
Tonga	53,899	46,369
Vanuatu	52,725	38,341
TOTAL	418,482	363,374

**Interplast* uses Fiji as a regional training hub, so expenditure includes the costs of bringing medical professionals and trainees to Fiji from across the region.

**The amount spent in Solomon Islands for 2017 is low due to a surgical program being postponed until 2018

Numbers of programs conducted since 1983

Fiji	160
Samoa	44
Tonga	43
Solomon Islands	53
Vanuatu	43
Kiribati	32
TOTAL	375

Review findings and recommendations

*When you know that a country doesn't need you anymore...that will be the greatest gift.*⁴⁷

From August to early October 2018, the review team met with a broad cross-section of local partners people in each of the Pacific Island countries that are the subject of this review. Without exception, the team was told that the work *Interplast* volunteers undertake is greatly appreciated by those working in health administration and service delivery, by representatives of Ministries, by the patients themselves, and their families. The range of services is viewed as being appropriate to the needs of medical professionals and patients. Those interviewed were able to assist the review team in ascertaining which aspects of the program *Interplast* is 'getting right' and identify areas to of future need.

*Thank you ... for the wonderful work you are doing year in, year out for our people. [We] really appreciate your commitment and support.*⁴⁸

And as one volunteer put it:

People trust the work that Interplast does, but it's legacy is training, training numbers of individuals to a level of competence, so that people have confidence in their own surgeons. The trust is the dividend of years of hard work, and from treating people with respect and dignity.

*Interplast has achieved this in spades; people have a huge affection for Interplast.*⁴⁹

One volunteer identified an important area as a priority for *Interplast*:

*Support for the Fiji training program as the hub of Pacific Islands training. Service delivery trips will always be needed to areas with low populations, and these are still useful, giving opportunities for local training in simple techniques, in wound and emergency management skills.*⁵⁰

There is certainly a great desire on the part of local partners for *Interplast* to keep on delivering surgical programs to meet needs which can't currently be met by local surgeons, and to provide ongoing support to the professional development of local medical professionals. Much remains to be done to improve capacity in the Pacific region, and *Interplast* has an ongoing role in helping local partners achieve this.

The review found that there is risk of some medical professionals becoming 'burnt-out' due to the demands placed on them and the infrequent opportunities they have to take time away from their work, or to access ongoing professional development.

⁴⁷ Volunteer interview, January 2019

⁴⁸ Local partner feedback, *Interplast*.

⁴⁹ Volunteer interview, January 2019

⁵⁰. Volunteer surveys, 2018

Pacific region recommendations

1. *Interplast* to support the development of Fiji as the plastic and reconstructive surgical services training hub, supporting capacity building across the Pacific region:
 - a. *Interplast* to support the delivery of the Emergency Management of Severe Burns training and assist Fiji in working toward the long-term goal of developing it's role as the Emergency Management of Severe Burns training hub for the Pacific region.
2. In the short to medium term, *Interplast* assist local general surgeons in developing their skills in basic plastic and reconstructive procedures.
3. Explore innovative ways to meet the need for plastic and reconstructive surgical services, particularly in the smaller islands.
4. In collaboration with local nursing and medical schools, continue to develop and expand nursing and allied health programs across the Pacific.
5. *Interplast* to maintain dialogue with Australian High Commission staff in the Pacific region, allowing them to monitor and advise on effective promotion of surgical visits prior to these being undertaken.
6. *Interplast* to better engage with anaesthetic & nursing staff in the lead up to surgical programs to identify potential issues and topics for training.
7. *Interplast* to identify gaps in service delivery in the Pacific Island countries where it does not have a presence (i.e Tuvalu, Niue, Tokelau and Nauru) where populations have very limited to no access to services:
 - a. Ascertain the feasibility of using the centralised hub of Fiji and its future role of servicing the Pacific region, to support surgical services to these smaller countries.
 - b. Investigate the possibility of a local surgeon, accompanied by a small volunteer team, to provide an outreach service to these locations.
8. *Interplast* to explore the feasibility of allocating resources to ensure ongoing maintenance of donated equipment.
9. For each visit, *Interplast* to provide exit reports for Ministries of Health, and hospital management, outlining the main outcomes of each program, and assist in the development of guidelines and protocols for plastics care for nurses.
10. *Interplast* and respective local implementing partners / ministries of health to enter into formal, documented partnership agreements to outline goals, responsibilities and compliance requirements of each program partnership

Please refer to the full review for country specific recommendations. This can be requested by contacting *Interplast*.