



Annual Report

January – December, 2015



Ministry of Health

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Abbreviations and acronyms

ADB	Asian Development Bank
DFAT	Department of Foreign Affairs and Trade
DWS	Disability Welfare Scheme
EPI	Expanded Program on Immunization
HPU	Health Promotion Unit
ICT	Information and Communication Technology
JICA	Japan International Cooperation Agency
KAP	Knowledge, Attitudes and Practices
MDAs	Ministries, Departments and Agencies
MRSA	Methicillin-Resistant Staphylococcus Aureus
NCD	Non Communicable Disease
NHSP	National Health Strategic Plan
NZAID	New Zealand Aid programme
SCH	Shriners Hospital for Children
SPC	Secretariat of the Pacific Community
STEPS	STEPwise approach to Surveillance
T2DM	Type 2 Diabetes Mellitus
THSSP	Tonga Health Sector Support Program
TMHDA	Tonga Mental Health and Disability Association
TSDF	Tonga Strategic Development Framework
UNFPA	United Nations Population Funds
WHO	World Health Organization

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Foreword from the Hon. Minister of Health



The Ministry of Health has maintained and escalated its commitment to fulfil its functions in such a way that it can achieve its mission by 2020. In recent years, it is evident that the public, as well as the Development Partners, have participated more strongly in improving the health system, in the hope of better health outcomes sooner rather than later.

The Legislative Assembly also approved a permanent committee on Population and Development in 2015 that was proposed by the Ministry of Health. The Ministry hosted a National Dialogue on Population and Development in June 2015, which enabled stakeholders and the general public to contribute to and be aware of the health development agenda

in conjunction with the Development Partners.

Although we have been successful in improving health outcomes for Child Health and addressing communicable diseases during the MDGs journey, it is a challenge to maintain the same standard while the new challenges of Adult Health and NCDs are escalating. This is where we have adopted the concept of Universal Health Coverage to ensure no one is left behind. We have seen the major investment made by DFAT in upgrading all Health Centres in remote communities and the outer islands. Greater numbers of specialist visiting teams have visited the outer islands to share specialized services that have been traditionally delivered at the main Hospital at Vaiola.

The Ministry has made significant progress in designing the major infrastructural development for the outer islands, such as the building of a new Hospital for Niuatoputapu, refurbishment of the Prince Ngū Hospital in Vava'u, the relocation of Niu'ui Hospital into a new hospital, and the replacement of the entire fence for the Niu'eiki Hospital. The United Nations Population Fund (UNFPA) have donated 4 vehicles to maintain high immunization coverage and to improve family planning services in remote areas, and these have been distributed to Vava'u, Ha'apai, 'Eua, and Tongatapu. It is anticipated that there will be more of this type of investment to improve services delivered to the remote communities and outer islands.

The Ministry has participated strongly in global dialogue, such as those relating to the Sustainable Development Goals, and has been looking for new partnership opportunities to assist with delivering health care services in Tonga. At the meantime, I urge for a stronger partnership with our existing stakeholders, Development Partners, and the public at large so that we can jointly pave the way to achieving our vision and fulfilling our mission for the public.

Hon. Dr. Saia Ma'u Piukala

Minister for Health

Message from the Chief Executive Officer for Health



The Ministry has been on an exciting journey through layers of reform during the last 5 years. This report is the first evaluation since a new Organizational Outcome was introduced, namely the “Tonga Universal Health Coverage”. It marks the completion of the MDGs journey for the last 15 years and also represents a forward-looking journey until 2030.

The World Health Organization and the Secretariat of the Pacific Community have reported the health outcomes of the Pacific Islands over the last 20 years. Tonga has demonstrated significant progress in child health at the lowest cost. However, the same report has brought to light the problem of NCDs. We have commenced a national coordinated effort by adopting and establishing a National NCDs Committee that brings multi-sectoral commitment and is guided by a

National NCD Strategy 2015-2020.

Tonga has raised the excise tax on tobacco for the second time, and also on 18 other unhealthy imported foods. In addition, tobacco free zones have been expanded and enforced by law. We also piloted a new technology called mDiabetes to mitigate the risk of pregnant women and their unborn child being exposed to NCDs. There are encouraging signs amongst the public at large that the people are more health conscious and cautious regarding NCDs.

This report follows the government format and timeframe that was introduced by the government in 2012, 2014, and 2015. Historically, the Ministry’s Report has consisted of technical and administrative components since 1950s. The first major reform was introduced in 2007 and 2011, where we reported against plans and resources. This report maintains the main concept but places a strong focus on the administrative component as prescribed by government. The technical component has been slowly shifted to other Ministry tools, such as the National Health Account Report and Tonga’s Health Report.

Broadly, this report will outline our strategic direction and mandates, and then provide brief but important administrative reporting on each sub-programme that equate to the six divisions of the Ministry of Health. At the sub-programme level, it will showcase the financial and human resources for each sub-programme, and describe highlights of key functions delivery.

The Ministry is currently undertaking internal reforms designed to improve our reporting standards in many dimensions, including better reporting of outer island hospital activities and community health. We are planning to also make improvements in the documentation and reporting of all donations and contributions towards the Health System apart from government sources.

Dr. Siale ‘Akau’ola

Chief Executive Officer for Health



1. INTRODUCTION

1.1 Legislation

In implementing its services and activities, the Ministry is governed by the following Acts:

- Therapeutics Goods Act 2001(Amendment Act 2004)
- Pharmacy Act 2001(Amendment Act 2004)
- Nurses Act 2001(Amendment Act 2004, 2014)
- Medical and Dental Practice Act 2001(Amendment Act 2004)
- Health Practitioners Review Act 2001(Amendment Act 2004)
- Mental Health Act 2001(Amendment Act 2004)
- Tobacco Act 2001(Amendment Act 2014)
- Drugs and Poisons Act 1930 (Amendment Act 2001)
- Public Health Act 2008 (Amendment Act 2008)
- Health Services Act 1991(Amendment Act 2010)
- Health Promotion Act 2007(Amendment Act 2010)

1.2 Values/ Functions

The Ministry of Health is responsible for the delivery of preventive and curative health services in the country. In doing so, the Ministry's core business involves the:

- provision of health services within the Kingdom of Tonga
- provision of policy advice to the Minister of Health
- negotiating, management, and monitoring of funds allocated by government and donor agencies
- administration of health legislation
- collection, management, and dissemination of health information.

1.3 Our Mission and Vision

Our mission and vision statements were reviewed as part of the consultation process to ensure that they still accurately reflect our core purpose and long term goals, and give our personnel a clear sense of direction and purpose. As a result of the consultation process, the mission and vision statements were amended. Our revised mission and vision statements are provided below:

► Our Mission

To improve the health of the nation by providing quality care through promotion of good health, reducing morbidity, disability and premature (death) mortality.

► Our Vision

To be the highest health care Provider in the Pacific as judged by international standards in 2020.

1.4 Our Core Values

The Ministry of Health and its staff are committed to achieving our Mission and Vision. To this end, in 1999 the Ministry adopted a number of core values. These remain true today and can be seen in our policies and procedure and the way in which managers and staff carry out their roles and responsibilities. In addition, a further core value of 'Partnerships in health' was identified during the consultation process.

Our core values are:

- Commitment to quality care
- Professionalism, integrity, and accountability
- Care and compassion
- Commitment to staff training and development
- Partnership in health

1.5 Mandate

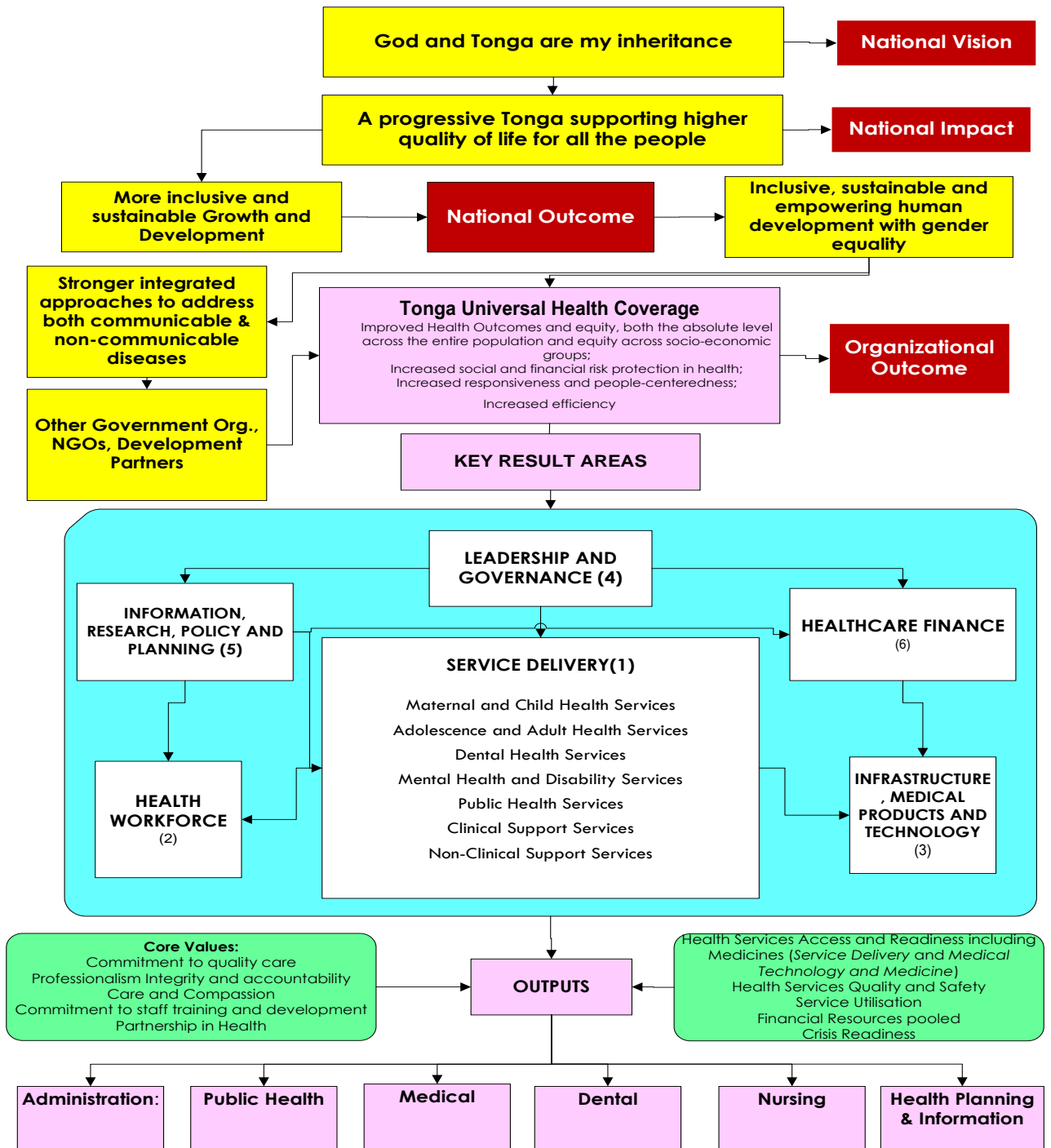
Table 1: MOH Stakeholders and their relationships

Stakeholder	Customer of MOH	Supplier to MOH	Partner with MOH	Oversight of MOH
Cabinet	✓	✓	✓	
LA	✓	✓	✓	
MDAs	✓	✓	✓	✓
Public Enterprises	✓	✓	✓	✓
Private Businesses	✓	✓	✓	✓
NSA, CSO, Churches	✓	✓	✓	✓
General Public	✓	✓	✓	✓
Development Partners	✓	✓	✓	

The core function of the MOH is to deliver preventative and curative health services for the people of Tonga. The expectation and contribution of the Stakeholders are prescribed in the core business of the Ministry, including:

- provision of health services for the Kingdom of Tonga;
- provision of policy advice to the Minister of Health;
- negotiation, management and monitoring of funds allocated, both recurrent and development funds;
- administration of health legislation; and
- collection, management, and dissemination of health information.
- The Ministry is now defining the minimum essential health care services to be delivered at the Community Health Centres. It marks the Ministry's desire to better define and classify the range of their services by type and level. This is in order to present the Ministry with options for service delivery using the same resources.

1.6 TSDF Impacts and Outcomes Supported by Health Outputs

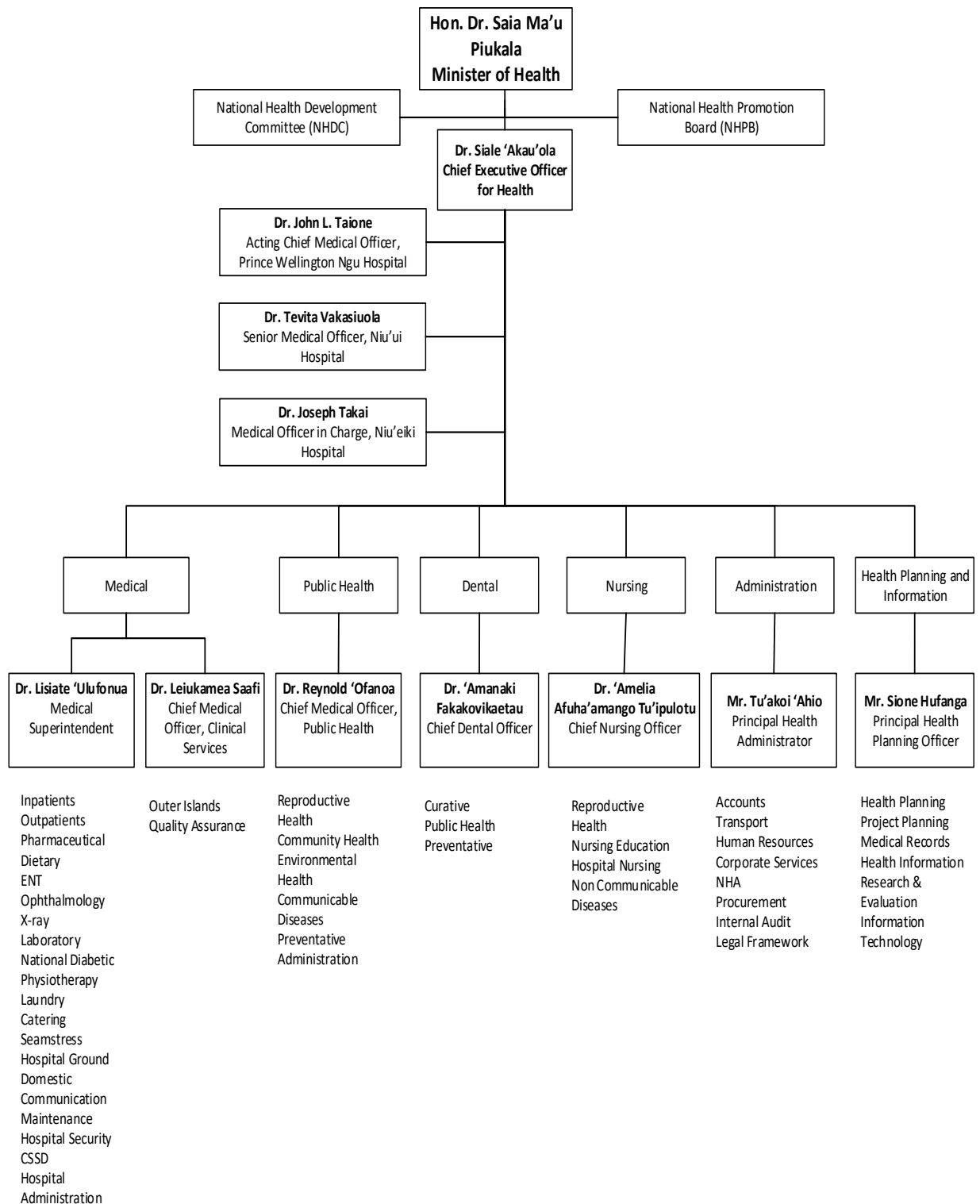


1.7 National Health Indicators

Table 2: Health Indicators for Tonga, 2011 – 2015

	INDICATOR	2015	2014	2013	2012	2011
1	Estimated population ('000)	103.3	103.3	103.3	103.2	103.3
2	Annual population growth	0.2	0.2	0.2	0.2	0.2
3	Percentage of population less than 14 years (per 100)	38	38	38	38	38
	Percentage of population 65 years and over (per 100)	6	6	6	6	6
4	Percentage of urban population (per 100)	23	23	23	23	23
5	Rate of natural increase (per 1,000)	19.6	18.6	19.2	18.9	20.4
6	Crude Birth Rate (per 1,000)	24.9	25.1	24.3	24.1	26.8
7	Crude Death Rate (per 1,000)	5.3	6.5	5.1	5.2	6.4
8	Maternal Mortality Rate (per 100,000)	37	0	76.2	77.5	0
9	Life Expectancy at Birth (combined)					
	Life Expectancy (Male)	65	65	65	65	65
	Life Expectancy (Female)	69	69	69	69	69
10	Infant Mortality Rate (per 1,000)	10.3	10.9	9.5	12.0	15.2
11	Perinatal Mortality Rate (per 1,000 live births)	11.4	12.8	9.6	15.4	13.0
12	Total Health expenditure ('000)	30210	26210	20504	19547	22596
	Per Capita	292	254	198	189	219
13	Immunization coverage	99.8	99.5	99.8	99.8	99.5
14	Percentage of infants attended by trained personnel (receive > 3 home visits or child clinics)	99.8	NA	NA	NA	NA
15	Percentage of married couples practicing contraception	32.4	36.4	35.6	35	33.3
16	Percentage of pregnant women attending antenatal care	97.7	98.6	98.5	97.5	98.6
17	Total Fertility Rate	3.4	3.6	3.4	3.5	3.7
18	Perioperative Mortality Rate	0.144	0.118	0.124	0.466	NA

2. MINISTRY'S ORGANISATIONAL STRUCTURE



3. MINISTRY'S HUMAN RESOURCES MANAGEMENT

Staffing by Salary Categories, 2014/15-2015/16

Category	FY 2014/15		FY 2015/16	
	Provisional Outcome	%	Provisional Outcome	%
Executive Staff (levels 0 to 2)	1	0%	1	0%
Professional Staff (Levels 3 to 9)	79	7%	88	9%
Other Staff (Levels 9A to 14A)	909	86%	910	92%
Total Established Staff	990	94%	935	94%
Unestablished Staff	66	6%	57	6%
Total Staff (Established & Unestablished)	1056	100%	992	100%
Total Recurrent Ministry Costs (\$ millions)	28.07		30.8	
Staff per TOP \$100,000	3.38		3.4	

Staff Ratio, 2014/15 and 2015/16

Post	2014/15	Est. Pop. 2014	Pop. Ratio	2015/16	Est. Pop. 2015	Pop. Ratio	Int. Stand.
Doctors	62	103321	0.6001	66	103283	0.6390	
Dentist	12	103321	0.1161	13	103283	0.1259	
Health Officer	20	103321	0.1936	20	103283	0.1936	
Nurses	350	103321	3.3875	391	103283	3.7857	
Student Nurse	114	103321	1.1034	98	103283	0.9488	
WHO Standards							
Doctors/Nurses /Health Officer	432	103321	4.1811442	477	103283	4.6183786	4.45

4. MINISTRY'S FINANCIAL PLANNING AND PERFORMANCE

- Ministry of Health Total Budget by Recurrent, Development, and Key Payment (Cash and In-kind) in millions

To deliver the six (6) programs and thirteen (13) sub-programs of the Ministry and to implement 334 activities, the budget required by MOH is shown in the table below.

Budget (\$m)	Past spending performance							
	FY 2014/15				FY 2015/16			
	Original Budget	%	Provisional Outcome	%	Original Budget	%	Provisional Outcome	%
Total Budget								
Established and Unestablished staff	20.04	60%	20.9	60%	22.94	59%	22.44	57%
Ministry Operational Costs	11.05	33%	12.06	34%	14.03	36%	15.05	38%
Assets	2.12	6%	2.11	6%	2.06	5%	2.13	5%
Total Ministry Expenditure	33.21	100%	35.07	100%	39.03	100%	39.62	100%
Recurrent Budget								
Established and Unestablished staff	19.04	73%	19.9	57%	21.94	73%	21.44	70%
Ministry Operational Costs	7.05	27%	8.06	23%	8.2	27%	9.22	30%
Assets	0.12	0%	0.11	0%	0.06	0%	0.13	0%
Total Ministry Expenditure	26.21	100%	28.07	80%	30.2	100%	30.79	100%
Development Budget								
Established and Unestablished staff	1	14%	1	14%	1	11%	1	11%
Ministry Operational Costs	4	57%	4	57%	5.83	66%	5.83	66%
Assets	2	29%	2	29%	2	23%	2	23%
Total Ministry Expenditure	7	100%	7	100%	8.83	100%	8.83	100%

5. MINISTRY'S OUTPUT AND PERFORMANCE

5.1 Ministry's Highlights

5.1.1 Health Prevention, Promotion and population health outcomes

Tonga was selected to be part of the five countries (Tonga, Denmark, South Africa, Russian Federation and Armenia and the World Heart Federation) as key panellist in this site event during the United Nation General Assembly 70th session.



- Tonga has conducted two national NCD STEPS surveys and published two STEPS Reports. When we compare the results of the survey in 2012 against those in 2004, we see that most NCD indicators in Tonga have improved. Among them, the physical activity and healthy diet have been improved significantly. The physical activity has achieved the “Global Physical Activity Voluntary Target” by 4.6 times and 13 years earlier;
- The tax on tobacco in Tonga increased by about 19% for both imported and locally-manufactured tobacco and tobacco substitutes which became effective from Aug., 2013. Tonga spends 13% of the annual government budget on health. In the 2014-15 financial year, the total budget allocated to the Ministry of Health was increased by 7% compared to the previous year. With the increased budget, Ministry of Health, Tonga invested more on NCD prevention and control, including the significant increase in the human resources of community nurses focusing on NCD prevention and control.
- In the past three years, eight (8) high-level multi-sectorial national workshops on NCD surveillance, tobacco taxation, diet and physical activity, NCD PEN project, health promotion and NCD prevention were co-organized by the MOH, Tonga and WHO Country Liaison Office. With support from WHO, a multi-sectorial collaboration on NCD prevention and control in Tonga has been set up.

Review of outcome of previous Health Promotion and Prevention Activities were published in second STEPs Report. This confirmed improvement in the following population health parameters (between 2004 to 2012):

- More physical activities (shown by reduction in low physical activities from 43% to 23%);
- More diet of fruit and vegetables (shown by reduction in <5 servings of fruit/vegetables per day from 92% to 73%);
- Reduction in alcohol consumption (as shown by reduction of alcohol consumption in previous 12 months from 8.9% to 5.7%);
- Tobacco smoking marginally improved (shown by mild reduction of smokers from 29.8% to 29.3%);
- Overweight improved (shown by reduction from 92.1% to 90.7%);
- Obesity marginally improved (shown by reduction from 68.7% to 67.6%)- important thing here is that it did not increase ! ;
- Combined risk factors for NCD improved (shown by reduction from 60.7% to 57.1%). ☐

The review of the progress of NCD prevention and promotion program (as noted above) has highlighted that the strategy/activities currently carried out are working, and they need to be consolidated and strengthened.

Strengthening activities so far have included:

- the launch by Hon PM of new Halafononga National Strategy to Prevent and Control NCD for Tonga for 2015-2020;
- More amendments to Anti-tobacco policies/laws approved to strengthen activities to prevent smoking and exposure to second hand smoking by public. There was also a new free service offered to the public to facilitate “Quit Tobacco Smoking” by smokers;
- In collaboration with other Government Ministries such as MAFFF, Ministry of Revenue and Customs, Ministry of Finance and National Planning, new policies/laws were developed and passed to continue increasing excise tax for unhealthy food, and to reduce import duties on healthier food choices to make healthier food cheaper for consumers and unhealthy and mostly unnecessary food, more difficult and more expensive to buy.
- Other areas of focus for MOH are the implementation/monitoring of activities as outlined in the Halafononga National Strategy to Prevent and Control NCD in Tonga.

With the end of the MDG era in 2015, there has been another focus to plan and implement activities linked to SDGs. This should build stronger partnership with development partners in an effort to strengthen Health Promotion Activities in Tonga with the principles of Health In All Policies in mind.

5.1.2 Policy Development

One of the key highlights for the Ministry of Health is its selection of Universal Health Coverage for better health outcomes as its organizational goal for its Strategic Health Plan for 2015-2020. This is a relatively ambitious goal since it requires comprehensive delivery of all health care services at the: non-personal, promotion, prevention, curative, rehabilitation and palliative care service. The levels of service delivery which are currently being pursued are delivered at the community level (Reproductive Health clinics and Community Health Centres – Primary Care), District Hospitals – (Secondary and Tertiary) and at Vaiola Hospital (Mostly referral Tertiary but also addresses primary and secondary). The aspiration for the

comprehensive health delivery services to be universally accessible to everyone in Tonga irrespective of geographical location, wealth, gender. This is the main focus of activities for MOH at the moment. Because we have this clear goal in mind, all activities of the Ministry are geared to addressing gaps in service delivery to ensure that we build health system capacities to be able to deliver equitable, quality health services to everyone, and leave no one behind.

5.1.3 Specialized Care

► Specialist Visiting Team

This commitment has resulted in 13 visiting specialists who were able to extend and diversify the range of services that we can offer the community. Services included Urology, Orthopaedic, Surgical, Spine, ENT, Medical, and Ophthalmology. A particular highlight was the arrival of the Open Heart International Team in September 2015. 'The program has provided Vaiola Hospital and the local community with invaluable benefits—not only by giving these patients a second chance, but also by supporting our ability to help others,' said Dr Siale 'Akau'ola, Chief Executive Officer for Health at Vaiola Hospital. The A\$60,000 the Ministry of Health would have spent to send one patient to New Zealand for treatment can now support other much-needed services to the people of Tonga.



► Partnership with Shriners hospital for Children

The history between the Ministry Of Health, Tonga and the Shriners hospital for children (SCH) had unfortunately, for some uncertain reason ended in the 1980's after an active relationship during the 1970's whereby 81 children from Tonga were transferred and treated at SCH.

The relationship however, between SCH and MOH Tonga has been re-established since 1980 during a short-visit by the Hon. Minister of Health to SCH-Honolulu after the WH RCM meeting in Guam 2015. This refreshing re-establishment between the Ministry of Health and SCH has provided the children of Tonga under the ages of 18 with free orthopedic surgical care offered by SCH which include the available treatments (but not limited to) hand, arm and shoulder disorders; hip, knee and foot disorders; plastic surgery and post burn care, spinal deformities including scoliosis, sports injuries, complicated fractures and other orthopedic conditions.

It was agreed upon, that the Government of Tonga will be responsible for paying two air tickets to/from Hawaii for each patient referred and the patient/guardians will be responsible for taking a pocket money estimated at \$USD10/day to pay for their food as well as the costing of their passport renewal, photos and Visa into the country. Accommodation and treatment is free.

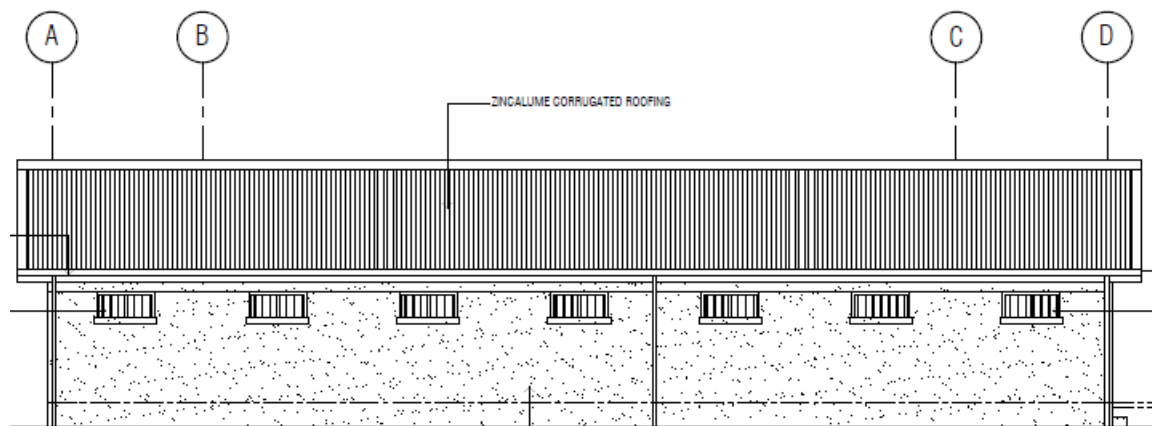
5.1.4 Infrastructural Development

The projects above have been approved by Cabinet and are currently funded by Development Partners and the Government of Tonga:



Project	Donor	Cost
'Eua Hospital perimeter fence	Government of Tonga	\$221,000 TOP
New Hospital Building, Niuatoputapu	European Union	\$2.3 million TOP
Ha'apai Hospital relocation and new building	Asian Development Bank	\$1.9million USD
Vava'u Hospital asbestos removal and renovation	World Bank and Government of Tonga	\$2.5 million TOP
Nomuka Health Centre and Staff Quarter	DFAT	\$186,400 TOP
Ha'afeva Health Centre	DFAT	
Hu'atolitoli Hospital	Government of Tonga	\$285,310 TOP

Hu'atolitoli Mental Health Unit



Prince Ngu Hospital asbestos replacement and refurbishment

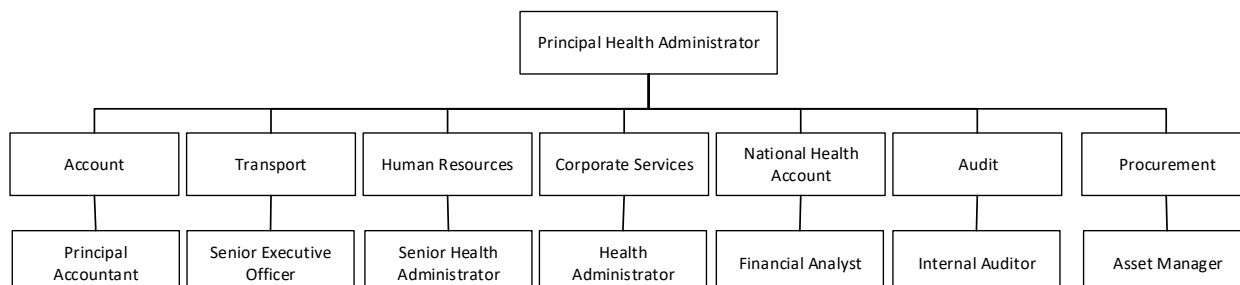


5.1.5 Other Achievements

- 14 Health related researches were processed and approved to be implemented in 2015. Topics ranged from researches on filariasis, chlamydia infection, NCD, blood transfusion, outcome of valve replacement surgery in Tonga, dengue, heart diseases, unhealthy food, physical exercise and so forth.
- Research on diabetes picked up an error in the STEPS survey of 2012 regarding the prevalence of diabetes and this led to amendment of the report by WHO, not only for Tonga but to several countries in the Pacific.

5.2 Leadership and Policy Advice

5.2.1 Organizational structure (Head of Division, Section and Head of Sections)



Sections	Head of Section	Post Title	Number of supporting staff
Head of Division	Mr. Tu'akoi 'Ahio	Principal Health Administrator	28
Account	Mrs. 'Amelia Tu'ipulotu	Principal Accountant	12
Human Resource	Mrs. Salote Puloka	Senior Health Administrator	5

5.2.2 Financial and Human Resources

Category	Past spending performance				Corporate Plan & Budget		
	FY 2014/15		FY 2015/16		FY 2016/17	FY 2017/18	FY 2018/19
	Original Budget	Provisional Outcome	Original Budget	Provisional Outcome	Budget	Projection	Projection
Executive Staff (levels 0 to 2)	2	2	2	2	2	2	2
Professional Staff (Levels 3 to 9)	8	8	21	21	22	23	23
Other Staff (Levels 9A to 14A)	48	48	57	57	50	50	50
Total Established Staff	58	58	80	80	74	75	75
Unestablished Staff	18	18	6	6	11	11	11
Total Staff (Established & Unestablished)	76	76	86	86	85	86	86
Total Recurrent Ministry Costs (\$ millions)	3.66	4.56	4.31	4.70	4.09	5.34	5.34

5.2.3 Key milestones

5.2.3.1 Leadership and governance administrative supports

The Ministry of Health has governance committees (National Health Development Committee, National Health Development, Technical Sub-committee, and Training Development Committees) that provide administration and leadership of the health system. April, May, and September 2015 were mostly occupied with Budget Preparation nationally, in addition to a series of regional meetings (Minister's Meeting, Regional ICPD Dialogue, SJGH Cerebration, WHO GA) where NHDC TSC were maintained with deferred NHDC.

No.	Name of Committee	Number of Meetings, Jan–Dec 2015
1	National Health Development Committee (NHDC)	9
2	Technical Sub-committee (TSC)	11
3	Training Development Committee (TDC)	12

The Ministry strives to maintain and strengthen other subordinate committees that manage and oversee the operation of the Health System to improve the efficiency and effectiveness of health care service delivery.

5.2.3.2 Professional Development

The Tonga Study Award Scholarship and Australia Awards Scholarships were offered for the 2016 intake. Sixty four (64) health staff applied for 24 advertised scholarships.

No.	Areas	No.	Areas
1	Masters degree (Pathology)	13	Bachelor in Computer Science and Information Systems
2	Postgraduate Diploma (Internal Medicine)	14	Bachelor degree (Laboratory)
3	Masters degree (Obstetrics)	15	Diploma (Prosthodontic Technician)
4	Masters degree (Accident and Emergency Medicine)	16	Bachelor in Public Health
5	Masters degree (Health System Management and Planning)	17	Bachelor in Midwifery
6	Masters degree (Health Informatics)	18	Bachelor degree (Biomedical Engineer)
7	Bachelor of Environmental Science	19	Bachelor of Commerce
8	Bachelor of Medicine, Bachelor of Surgery	20	Bachelor degree (Accounting/Economics)
9	Bachelor of Nursing (Public Health)	21	Bachelor degree (Oral Health)
10	Bachelor of Dental Surgery	22	Diploma (Dental Technician)
11	Bachelor of Pharmacy	23	Bachelor degree (Dietetics and Nutrition)
12	Bachelor of Radiology	24	Bachelor of Physiotherapy

► WHO Fellowships 2016/2017

These are all the successful trainings funded by the World Health Organization.

No	Name of Program	Place-ment	Location	Duration	Division/Section
1	IT training	1	NZ	1 month	Planning
2	Masters degree (Public Health)	1	Aus	1 year	Public Health
3	Postgrad. Dip Oral Surgery	1	Fiji	1 year	Dental
4	Post. Dip (Accident and Emergency)	1	Fiji	1 year	Clinical Services
5	Masters degree (Surgical Sciences)	3	Fiji	1 year	Clinical Services
6	Masters degree (Pathology)	1	Fiji	1 year	Clinical Services
7	Postgrad. Dip (Anaesthesia)	1	Fiji	1 year	Clinical Services
8	Masters degree (Health Science Education)	1	Aus	1 year	Nursing

► POLHN online courses

Twenty one (21) health staff applied for the POLHN online courses for Semester 2, 2015 (FNU). POLHN approved the sponsorship of ten (10) students; 5 continuing students and 5 new students.

► Twinning Programs with Saint John of God Hospital, Ballarat, Australia

This partnership dates back to 1992, with the intention to improve and support health care services in Tonga by providing staff exchanges between the Ballarat Hospital and the Vaiola Hospital. This training programme was jointly designed by both partners, and was defined in the Tonga Health Systems – Australian Support Framework Design document, dated August 2009, and the Ministry of Health Corporate Plan 2008/2009 – 2011/2012. Currently it is defined by the Tonga Health Systems Support Program (THSSP), which officially commenced in March 2010. The same programme provided two 20ft containers filled with medical equipment and supplies to support health care services delivery at Vaiola and in outer island hospitals.

► Returning Scholars, 2014-2015

These are staff that have successfully completed their training in 2014 and 2015,

Postgraduate Training	2014	Institution	2015	Institution
Master of Medicine in Obstetrics and Gynecology			1	FNU
Master in Diagnostic Radiology			1	University of Sydney
Master of Public Health	1	Deakin University		
Post Grad Dip Surgery			1	FNU

Postgraduate Training	2014	Institution	2015	Institution
Post Grad Dip in Ophthalmology			1	FNU
Post. Grad. Dip. Mental Health	1	FNU		
Post Graduate. Dip Midwifery			1	FNU
Post. Grad. Certificate Public Health	1	FNU		
Post Graduate Certificate in Eye Care			1	FNU
Undergraduate Training				
Bachelor of Medicine and Bachelor of Surgery	3	FNU	3	FNU
Bachelor of Dental Surgery			2	FNU
Bachelor's Degree of Medicine	3	Nanchang Uni., China		
Bachelor of Pharmacy	1	FNU	1	FNU
Bachelor of Medical Imaging Science			2	FNU
Bachelor of Public Health Nursing		FNU	3	FNU
Bachelor of Science in Nursing	2	FNU	1	FNU
Bachelor of Public Health	3	FNU		
Total	15		18	

5.2.3.3 Performance Management System and Internal Audit

The Ministry of Health staff have been consulted and trained in concepts relating to Performance Management Systems. The Nursing division has implemented and evaluated the nurse's performance nationwide, with the financial assistance of the WHO.

The evaluation was carried out by a team of 6 supervisors, and involved the participation of 287 nurses. They identified areas that would guide their professional development. Identified areas include:

- Demonstrating excellence in care for people during the management of nursing care
- Collaboration and teamwork
- Legal, ethical, and professional attitudes and behaviour
- Leadership management, quality improvements, and personal development
- Resource management.

The Ministry's new Internal Audit section demonstrated immediate impact on the managing and monitoring of overtime work. This problem was raised and reviewed in the past with limited success. This section was instrumental in introducing processes and procedures that significantly minimized problems relating to overtime work, to the point where it may no longer be of immediate concern.

In addition, the Internal Audit has provided timely advice and reminders for ensuring compliance with the government laws and regulations, as well as compliance with the public service's policies and procedures.

► Outer Island Hospitals

The Ministry of Health has 4 infrastructural development projects, all of which are currently committed, with funding arrangements approved.

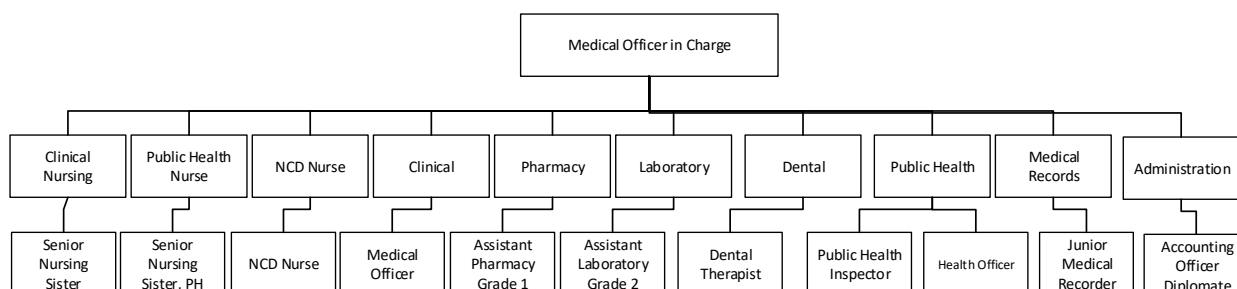
- 'Eua Hospital perimeter fence
- New Hospital Building, Niuatoputapu
- Ha'apai Hospital relocation and new building
- Vava'u Hospital asbestos removal.

The projects above have been approved by Cabinet and are currently funded by Development Partners:

Project	Donor	Cost
'Eua Hospital perimeter fence	Government of Tonga	\$221,000 TOP
New Hospital Building, Niuatoputapu	European Union	\$2.3 million TOP
Ha'apai Hospital relocation and new building	Asian Development Bank	\$1.9million USD
Vava'u Hospital asbestos removal and renovation	World Bank and Government of Tonga	\$2.5 million TOP

► Niu'eiki Hospital ('Eua)

Organizational structure (Head of Division, Section and Head of Sections)



Sections	Head of Sections	Post Titles	Number of Supporting Staff
Doctor in Charge	Dr. Joseph Takai	Medical Officer	16
Sister in Charge	Sr. Kaufo'ou Taufa	Senior Nursing Sister	20

Population Details of 'Eua:

The total population of 'Eua is estimated at 5,141 with 2,564 male and 2,577 female in 2016 according to the Reproductive Health Nurse Report in 2015 but it was estimated at 5,016 (2,514 for male and 2,502 for female) in 2011 Government Census .

Immunization Services ('Eua), 2015

Immunization coverage was reported at 100% for all types of immunization services.

Vaccination	No. of children to be Immunized	No. of children immunized	Percentage coverage (%)
BCG 1	128	128	100
Hep B Birth dose	128	128	100
Polio 1	123	123	100
Polio 2	114	114	100
Polio 3	96	96	100
DPT/HIB/Hep B 1	123	123	100
DPT/HIB/Hep B 2	114	114	100
DPT/HIB/Hep B 3	96	96	100
MR 1	136	136	100
MR 2	120	120	100
DPT 4	120	120	100

Hospital Admission and Outpatient Visits ('Eua), 2015

A total of 452 admissions at Niu'eiki hospital with a monthly admission range from 20s to 40s. The outpatients served a 10,235 outpatient visits with monthly visits range from 500s to more than 1000s.

Months	Admissions	Outpatient Visits
Jan	42	682
Feb	42	887
Mar	42	1045
Apr	43	1071
May	29	920
Jun	40	530
Jul	30	1006
Aug	38	1035
Sep	39	910
Oct	29	948
Nov	46	623
Dec	32	578
Total	452	10235

Source: Health Information and Medical Records Services

'Eua Hospital perimeter fence

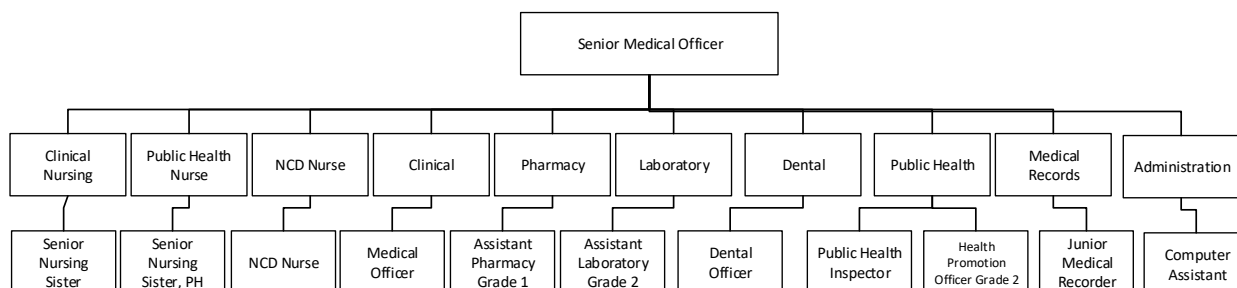
The 'Eua Hospital perimeter fence was funded by the Government of Tonga with a fund of \$221,000 TOP. The perimeter fence construction began in April 2015 and was completed in July 2016. A blessing ceremony was conducted by health staff and a medical officer in charge of 'Eua Hospital.





► Niu'ui Hospital (Ha'apai)

Organizational structure (Doctor in Charge, Section and Head of Sections)



Sections	Head of Sections	Post Titles	Number of Supporting Staff
Doctor in Charge	Dr. Tevita Vakasiuola	Senior Medical Officer	24
Sister in Charge	Sr. Mele Falemaka	Senior Nursing Sister	22

Population Details of Ha'apai:

The total population of Ha'apai is estimated at 6,375 with 3,274 male and 3,101 female according to the Reproductive Health Nurse Report in 2015 but it was estimated at 6,616 (3,406 for male and 3,210 for female) in 2011 Government Census.

Immunization Services (Ha'apai), 2015

Immunization coverage was reported at 100% for all types of immunization services except IPV vaccination.

Vaccination	No. of children to be Immunized	No. of children immunized	Percentage coverage (%)
BCG 1	148	148	100
Polio 1	157	157	100
Polio 2	155	155	100
Polio 3	142	142	100
HEPATITIS B 1	148	148	100
DPT/HIB/Hep B 1	157	157	100
DPT/HIB/Hep B 2	155	155	100
DPT/HIB/Hep B 3	142	142	100
MR 1	148	148	100
MR 2	132	132	100
DPT 4	132	132	100
IPV	7	6	86

Hospital Admission and Outpatient Visits (Niu'ui Hospital), 2015

A total of 434 admissions at Niu'ui hospital with a monthly admission range from 20s to 50s. In addition, there was 8,787 outpatient visits with monthly visits range from 500s to more than 1000s.

Months	Admissions	Outpatient Visits
Jan	30	857
Feb	35	962
Mar	51	1097
Apr	44	787
May	30	572
Jun	37	531
Jul	31	541
Aug	54	737
Sep	28	670
Oct	24	776
Nov	31	687
Dec	39	570
Total	434	8787

Source: Health Information and Medical Records Services

Ha'apai Hospital relocation and new building

The Ha'apai hospital project involves the relocation of the current hospital to a newly constructed hospital building. The project is part of the Climate Resilience Sector Projects which are funded by the Asian Development Bank and implemented by the Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change, and Communications. Delays in the project were due to grievance issues raised by the Parent Teacher Association of Ha'apai High School, regarding the location of the new hospital. However, the grievances have been resolved by the Governor of Ha'apai with the president of the PTA Committee. The concept design is to be completed in December 2016, along with all logistics. The aim is for the construction of the hospital to commence in January 2017.

Nomuka Staff Quarters

This is a new staff quarter that was built at Nomuka for Ministry's staff under the assistance of the Government of Australia. This is the last phase of the infrastructural development under the Tonga Health Sector Support Project 1. It started in 2009 from Tongatapu and then proceed to Ha'afeva and concluded with this building at Nomuka. The design and the implementation started in 2015 with great anticipation to complete in mid-2016.



Ha'afeva Health Centre

Ha'afeva health centre and nurses quarters are the seventh to be upgraded under the Tonga Health Systems Support Program (THSSP) funded by the Australian Department of Foreign Affairs and Trade. The Ha'afeva health centre serves the Lulunga District with almost 1000 residents. The renovation included physical repairs like the roof and gutters, water tanks and the fresh coat of paint, the centre now has new patient beds, blood testing equipment, steriliser, purpose built storage and a designated dental area. A broader range of services can now delivered within the centre. This allows faster processing of results and diagnosis of patients and hopefully faster and more regular treatment of health issues. These works were officially commissioned by the Hon. Minister of Health, Dr. Saia Ma'u Piukala in June 2015.

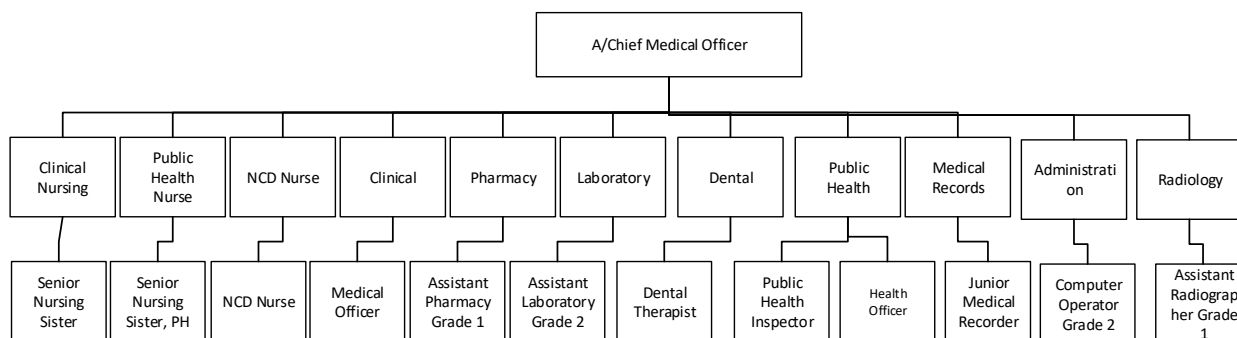


Dr Toakase Fakakovikaetau, NCD Co-ordinator for THSSP also conducted echo screening tests for rheumatic heart disease. This screening detects these fatal conditions early on, which we can start necessary treatment much sooner and also prevent the need for expensive surgery later in life. This is the first time that the Ministry screened people in the outer islands for this condition and had discovered 12 new cases out of 150 Primary school students screened.

Having these patients treated at our Health Centres reduces the strain on our main hospital at Pangai. It also means less travel time and costs for patients. Our improved range and quality of services now available at Ha'afeva will hopefully lead to better patient outcomes for everyone and conform to the concept of Universal Health Coverage.

► Prince Wellington Ngu Hospital (Vava'u)

Organizational structure (Doctor in Charge, Section and Head of Sections)



Sections	Head of Sections	Post Titles	Number of Supporting Staff
Doctor in Charge	Dr. John Lee Taione	Acting Chief Medical Officer	53
Sister in Charge	Sr. Meliame Tupou	Senior Nursing Sister	30

Population Details of Vava'u:

The total population of Vava'u is estimated at 15,697 with 7,984 male and 7,713 female according to the Reproductive Health Nurse Report in 2015 but it was estimated at 14,922 (7,559 male and 7,363 female) in 2011 Government Census.

Immunization Services (Vava'u), 2015

Immunization coverage was reported at 100% for all types of immunization services except Polio 2, DPT/HIB/Hep B 2 and MR 1 vaccination.

Vaccination	No. of children to be Immunized	No. of children immunized	Percentage coverage (%)
BCG 1	342	342	100
Hep B Birth dose	342	342	100
Polio 1	343	343	100
Polio 2	316	315	99.6
Polio 3	279	279	100
DPT/HIB/Hep B 1	343	343	100
DPT/HIB/Hep B 2	316	315	99.6
DPT/HIB/Hep B 3	279	279	100
MR 1	403	402	99.7
MR 2	378	378	100
DPT 4	378	378	100
IPV	6	6	100

Hospital Admission and Outpatients Visits (Prince Wellington Ngu), 2015

A total of 1,225 admissions at Prince Wellington Ngu hospital with a monthly admission range from 60s to 100s. In addition, there was 42,252 outpatient visits with monthly visits range from 2000s to more than 4000s.

Months	admissions	Outpatient Visits
Jan	102	3859
Feb	124	4102
Mar	117	3714
Apr	110	3560
May	92	3861
Jun	78	3558
Jul	109	3827
Aug	130	3129
Sep	115	3079
Oct	95	2229
Nov	91	3589
Dec	62	3745
Total	1,225	42252

Source: Health Information and Medical Records Services

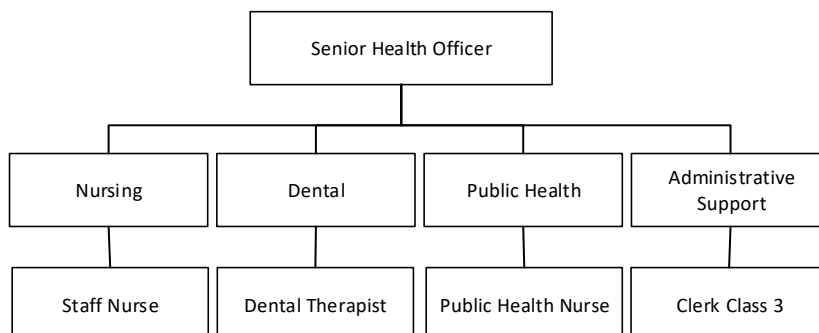
Vava'u Hospital asbestos removal and renovation

The Vava'u hospital project involves the removal of the asbestos roofing and renovation. The project was approved by Cabinet and funding of \$2.5 million has been confirmed by the World Bank and is also supported by the Government of Tonga.



► Tu'akifalelei Health Centre (Niuafu'ou)

Organizational structure (Health Officer in Charge, Section and Head of Sections)



Section	Head of Section	Post Title	Number of Supporting Staff
Health Officer in Charge	Mr. Viliami Falevai	Senior Health Officer	3

Population Details of Niuafu'ou:

The total population of Niuafu'ou is estimated at 564 with 293 male and 271 female according to the Reproductive Health Report in 2015 but it was estimated at 523 (277 male and 246 female) in 2011 Government Census.

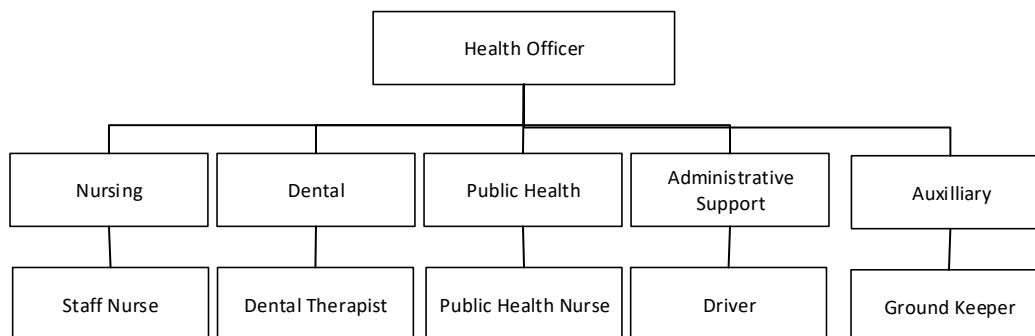
Immunization Services (Niuafu'ou), 2015

Immunization coverage was reported at 100% for all types of immunization services.

Vaccination	No. of children to be Immunized	No. of children immunized	Percentage coverage (%)
BCG 1	14	14	100
Hep B Birth dose	14	14	100
Polio 1	14	14	100
Polio 2	14	14	100
Polio 3	14	14	100
DPT/HIB/Hep B 1	14	14	100
DPT/HIB/Hep B 2	14	14	100
DPT/HIB/Hep B 3	14	14	100
MR 1	6	6	100
MR 2	6	0	0
DPT 4	6	0	0

► Likamonu Hospital (Niuatoputapu)

Organizational structure (Health Officer in Charge, Section and Head of Sections)



Section	Head of Section	Post Title	Number of Supporting Staff
Health Officer in Charge	Mr. Sonasi Hu’ahulu	Health Officer	8

Population Details of Niuatoputapu:

The total population of Niuatoputapu is estimated at 890 with 427 male and 463 female according to the Reproductive Health Report in 2015 but it was estimated at 759 (390 male and 369 female) in 2011 Government Census.

Immunization Services (Niuatoputapu), 2015

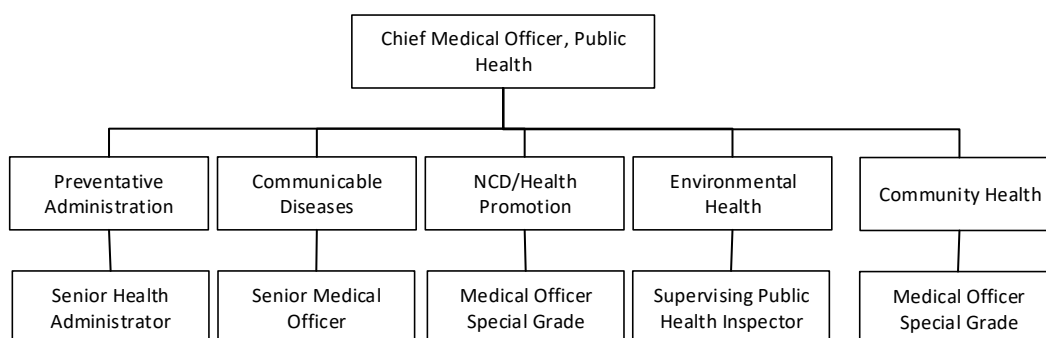
Immunization coverage was reported at 100% for all types of immunization services except MR 2 and DPT 4.

Vaccination	No. of children to be Immunized	No. of children immunized	Percentage coverage (%)
BCG 1	18	18	100
Hep B Birth dose	18	18	100
Polio 1	17	17	100
Polio 2	18	18	100
Polio 3	20	20	100
DPT/HIB/Hep B 1	17	17	100
DPT/HIB/Hep B 2	18	18	100
DPT/HIB/Hep B 3	20	20	100

MR 1	21	21	100
MR 2	19	18	95
DPT 4	19	18	95

5.3 Preventative Health Care

5.3.1 Organizational structure (Head of Division, Section and Head of Sections)



Section	Head of Section	Post Title	Number of Supporting Staff
Head of Division	Dr. Reynold 'Ofanoa	Chief Medical Officer, Public Health	118

5.3.2 Financial and Human Resources

Category	Past spending performance				Corporate Plan & Budget		
	FY 2014/15		FY 2015/16		FY 2016/17	FY 2017/18	FY 2018/19
	Original Budget	Provisional Outcome	Original Budget	Provisional Outcome	Budget	Projection	Projection
Executive Staff (levels 0 to 2)	0	0	0	0	0	0	0
Professional Staff (Levels 3 to 9)	16	16	21	21	23	23	23
Other Staff (Levels 9A to 14A)	86	86	57	57	76	76	76
Total Established Staff	102	102	78	78	99	99	99
Unestablished Staff	4	4	2	2	3	3	3
Total Staff (Established & Unestablished)	106	106	80	80	102	102	102

Category	Past spending performance				Corporate Plan & Budget		
	FY 2014/15		FY 2015/16		FY 2016/17	FY 2017/18	FY 2018/19
	Original Budget	Provisional Outcome	Original Budget	Provisional Outcome	Budget	Projection	Projection
Total Recurrent Ministry Costs (\$ millions)	2.53	2.54	2.50	2.64	2.56	2.74	2.73

5.3.3 Key milestones

5.3.3.1 Health Promotion

► Anti-tobacco campaign

In 2015, the Health Promotion Unit (HPU) undertook a significant amount of work to prepare for the delivery of a high-quality, evidence based, multi-aspect, anti-tobacco campaign in 2016. This included:

- Training of 2 HPU staff to establish Tonga's first 'Quit line' service. The staff undertook a 4 week attachment with an Australian 'Quit line' service, along with one week's training with the World Health Organization to develop group counselling skills. The 'Quit line' service will allow, for the first time, the provision of ongoing cessation services to all Tongans regardless of their location and is expected to be launched May 31st. This is significant because nearly half of all Tongan adult males smoke, along with 13% percent of women, and half of all long term smokers will die prematurely from smoking.
- The HPU pre-tested a range of anti-tobacco advertisements adapted to the local context with 144 smokers in order to select the most high-impact messaging for the launch of Tonga's first intensive and ongoing mass-media anti-tobacco campaign.
- The HPU supported the completion and reporting of public consultation, as requested by the Privy Council, in relation to the Tobacco Amendment Act 2014. As a result of this work, the legislation will come into force in early 2016, introducing stronger smoke free legislation and introducing on-the-spot fines for smoking in no-smoking areas.
- As a result of the extensive work undertaken by the HPU in relation to tobacco control in 2015, the Government of Tonga has considerably strengthened delivery of actions relating to the Framework Convention on Tobacco Control, which was ratified by Tonga in 2005.
- In 2015 the HPU established harmonized work-plans and budgets. This allows the section to maximize the impact of donor and Government funding for achieving health outcomes, and is consistent with aid effectiveness principles.
- The HPU worked in partnership with the Nossal Institute of Public Health to develop a multi-year capacity development plan to support strategic development of the section's capacity.
- The HPU also provided ongoing technical support and advice for the development of the National Strategy to Prevent and Control Non-Communicable Disease 2015-2020.

► Workplace NCD screening

The HPU delivered a Workplace NCD screening at Tongatapu which covers 25 government and non-government organizations and participated by 1,155 people.

No.	Government and Non-Government Organizations	Participate number
1	MEIDECC	55
2	Australian High Commission Office	18
3	Inland Revenue	50
4	Custom Department	42
5	Fisheries	28
6	Infrastructure	79
7	Public Enterprises	20
8	Prime Minister's Office	23
9	Public Service Commission	19
10	Land & Survey	67
11	Ministry of Finance and National Planning	67
12	Ministry of Agriculture and Fisheries	30
13	Government Statistics Department	18
14	Tourism	13
15	Police	78
16	Prison	75
17	Internal Affairs	34
18	Port Authority	49
19	Tonga Communication Cooperation	78
20	Tonga National Qualification and Accreditation Board	13
21	Ministry of Education	47
22	Health	56
23	Tonga Power Board	136
24	Palu Aviation	32
25	Radio Tonga	28
	Total	1,155

The workplace screening suggest that there were 17% of those who participated needs clinical care given their blood glucose test results and 7% for blood pressure. A significant proportion (62%) of those who participate has more than 30% body. fat The Health Promotion team provides immediate advice and interventions to those who need immediate clinical and preventative care.



Workplace NCD Screening Results, 2015

No.	Tests	Sex	Normal	Borderline	Abnormal
1	Blood Glucose	Both	54%	29%	17%
			Normal	Moderate High	High
2	Blood Pressure	Both	71%	22%	7%
			Below 30%	More than 30%	
3	Body Fat	Both	38%	62%	
			Below 100cm	More than 100cm	
4	Waist Circumference	Men	29%	71%	
			Below 110cm	More than 110cm	
		Female	58%	42%	

5.3.3.2 Community Health

► Tonga Health Sector Support Project

The Ministry, in partnership with the Government of Australia, has invested in strengthening Primary Health Care. The Health Centres at Tongatapu and Ha'apai have been refurbished and work is continuing on the design of a Health Centre Manual and Essential Health Care Services that will be delivered at the community level.

The governance arrangements of the Community Health centres has now been reviewed, in the hope that some efficiency gains will be achieved through better coordination of the current services, such as Reproductive Health, NCD Nursing, and new services such as the disability and rehabilitative services.

The Ministry has greatly benefited from the assets of THSSP 1 that have been handed over by the Government of Australia to the Tonga Ministry of Health. Community Health has benefitted from the donation of six vehicles, office and medical equipment and supplies.

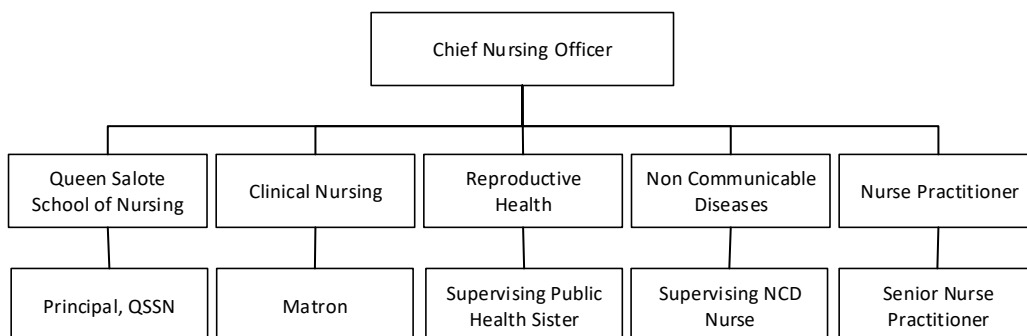
The Australian Foreign Affair Minister visited Tonga in April 2015. She visited the Fua'amotu Health Centre where its refurbishment was funded under THSSP 1. She was entertained by the Primary School

of Fua'amotu and also joined the Kaumai Netball demonstration which was also supported by DFAT under the Ministry of Internal Affairs.



5.4 Nursing

5.4.1 Organizational structure (Head of Division, Section and Head of Sections)



Section	Head of Section	Post Title	Number of Supporting Staff
Head of Division	Dr. 'Amelia Afuha'amango Tu'ipulotu	Chief Nursing Officer	489

5.4.2 Financial and Human Resources

Category	Past spending performance				Corporate Plan & Budget		
	FY 2014/15		FY 2015/16		FY 2016/17	FY 2017/18	FY 2018/19
	Original	Provisional	Original	Provisional	Budget	Projection	Projection

	Budget	Outcome	Budget	Outcome			
Executive Staff (levels 0 to 2)	0	0	0	0	0	0	0
Professional Staff (Levels 3 to 9)	31	31	36	36	35	35	35
Other Staff (Levels 9A to 14A)	398	388	436	436	459	460	460
Total Established Staff	429	419	472	472	494	495	495
Unestablished Staff	0	0	1	1	1	0	0
Total Staff (Established & Unestablished)	429	419	473	473	495	495	495
Total Recurrent Ministry Costs (\$ millions)	8.43	8.43	9.69	9.24	10.75	10.40	10.83

5.4.3 Key milestones

5.4.3.1 Clinical Nursing

Productive partnership with overseas partners was evident in the donation of three 20ft containers by Fofo'anga (Sydney), St. John of God Ballarat (Melbourne, Ballarat), and the Rotary (Brisbane). These containers were filled with medical equipment and supplies that have helped meet the basic resource requirements for clinical care.



► Quality nursing performance

The establishment of the Tonga Model of Collaboration, Teamwork, and Good working relationships involves all clinical nurses and provides a special award for the best ward (based on infection control monthly assessment), best customer service, and best performance by nurses in each of the 13 wards and units, in order to promote quality nursing performance.

► Professional development

At least 95% (5% were on leave) of clinical nurses underwent professional development to ensure their evidence based knowledge, skills, attitudes, and behaviour to ensure quality care were of the standard to enable the delivery of quality nursing performance at all times. The Tongan Nursing Research Alliance was instrumental in providing ongoing education for clinical nursing staff.

5.4.3.2 Reproductive Health Nursing

Tonga maintains high coverage in maternal and child health care services at the community. In November 2015, the World Health Organization conducted an Expanded Program on Immunization (EPI) for the Reproductive Health nurses on Tongatapu and including representatives from the outer islands.

► Childhood Immunization, 2015

Vaccination	No. of children to be Immunized	No. of children immunized	Percentage coverage (%)
BCG 1	2704	2698	99.8
Hep B Birth dose	2704	2698	99.8
Polio 1	2897	2896	99.9
Polio 2	2816	2809	99.7
Polio 3	2683	2677	99.8
DPT/HIB/Hep B 1	2897	2896	99.9
DPT/HIB/Hep B 2	2816	2809	99.7
DPT/HIB/Hep B 3	2683	2677	99.8
MR 1	2823	2813	99.6
MR 2	2810	2797	99.5
DPT 4	2810	2797	99.5
IPV	30	29	96.7
Total	30673	30596	99.75

The United Nations Population Fund (UNFPA) maintains its technical support in providing technical equipment and supplies for family planning for the Ministry as well as for the Tonga Family Health Association (TFHA).

5.4.3.3 School of Nursing

► Accreditation of diploma of nursing programme

The school has fulfilled the requirements of the Tonga National Qualifications Accreditation Board (TNQAB) for accreditation of the Diploma of Nursing Program, Level 5. The Midwifery Curriculum has been drafted for consultation in 2016.

There were 115 students (Year 1 Class - 42 students, Year 2 Class - 39, Year 3 Class - 34) who studied at the Queen Salote School of Nursing in 2015, which is supported by 9 full time teaching staff, 2 orientating teaching staff, 1 temporary teaching staff, 1 librarian and 1 computer operator.

There is a special emphasis on improving the Nursing School in order to provide quality tertiary level nursing education. Funds have been secured from the World Health Organization (WHO) and the United Nations Population Funds (UNFPA) to support postgraduate training in Nursing Research and Midwifery. Currently, one of the full time teaching staff is completing her final training phase towards a Masters degree in Clinical Nursing. Simultaneously, the recruitment of Staff Nurse Diplomats on a temporary basis is still being piloted to assist with shouldering the teaching workload.

5.4.3.4 Non Communicable Disease Nursing

► NCD Screening

Partnership with the communities, government, non-government Ministries, and Churches in addressing NCDs has become a common approach used by NCD nurses to help improve public participation.

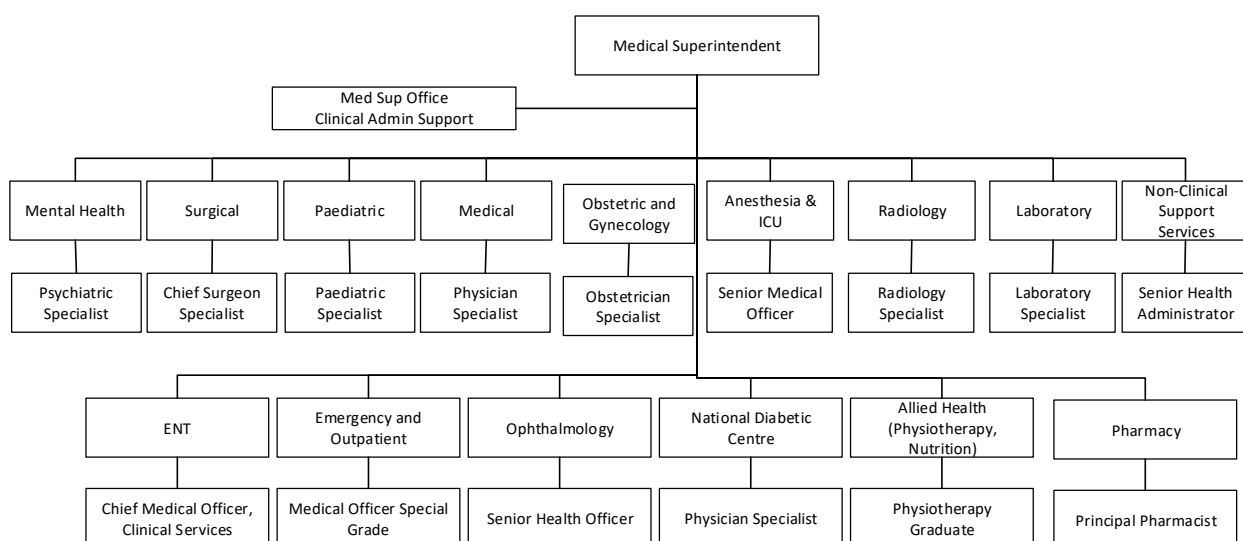


Special emphasis is placed on the disability induced by poor NCD control, and has shown favourable improvement in patients' HbA1C test results over time. The overall results of this intervention will depend on the consistent participation and compliance of patients.

Although there is still poor NCD control at the community level, there is evidence of improvements wherein people have gained a better understanding of NCDs. This shows some effectiveness in the patient education delivered by NCD Nurses to NCD patients.

5.5 Curative Health Care

5.5.1 Organizational structure (Head of Division, Section and Head of Sections)



Section	Head of Section	Post Title	Number of Supporting Staff
Head of Division	Dr. Lisiata 'Ulufonua	Medical Superintendent	126

5.5.2 Financial and Human Resources

Category	Past spending performance				Corporate Plan & Budget		
	FY 2014/15		FY 2015/16		FY 2016/17	FY 2017/18	FY 2018/19
	Original Budget	Provisional Outcome	Original Budget	Provisional Outcome	Budget	Projection	Projection
Executive Staff (levels 0 to 2)	0	0	0	0	0	0	0
Professional Staff (Levels 3 to 9)	77	77	100	100	111	117	118
Other Staff (Levels 9A to 14A)	152	152	191	191	178	184	185
Total Established Staff	229	229	291	291	289	295	296
Unestablished Staff	40	40	32	32	32	38	39
Total Staff (Established & Unestablished)	269	269	323	323	321	327	328
Total Recurrent Ministry Costs (\$ millions)	9.84	10.80	11.71	12.34	12.96	14.24	14.16

5.5.3 Key milestones

5.5.3.1 Clinical Services

In 2015, clinical services continued to strengthen its commitment to improving equity of access, and the provision of high quality evidence-based services designed to improve individual and community health outcomes. In addition to highlights and achievements identified elsewhere in this report in 2015, clinical services continue to value, sustain, and develop strategic partnerships both locally and internationally.

► Leadership and governance

As part of our commitment to continuous improvement, we are pleased to announce that:

- In December 2015, at the clinical services planning and review workshop, the Anaesthesiology department presented a draft of Tonga's first National Anaesthesia Guidelines. The guidelines provide a concise, accessible overview of current best practice, as well as a current list of essential medicines.
- Access to new training opportunities at Lake Imaging in Ballarat, has enabled radiology department staff to upgrade their skills in the screening and detection of breast cancer. The arrival of new equipment in June 2015 saw mammograms being offered at Vaiola Hospital for the first time. This new service is an important and crucial step forward in our fight against cancer, as

early detection provides a much greater chance of successful treatment and lower chances of recurrence.

- The return of a newly qualified Tongan bio-medical engineer saw the biomedical team grow, and by the end of 2015 it consisted of 2 biomedical engineers, and 2 trained technicians.

In 2015 clinical services also focused on strengthening and empowering a range of national and internal committees. Committees of particular note are:

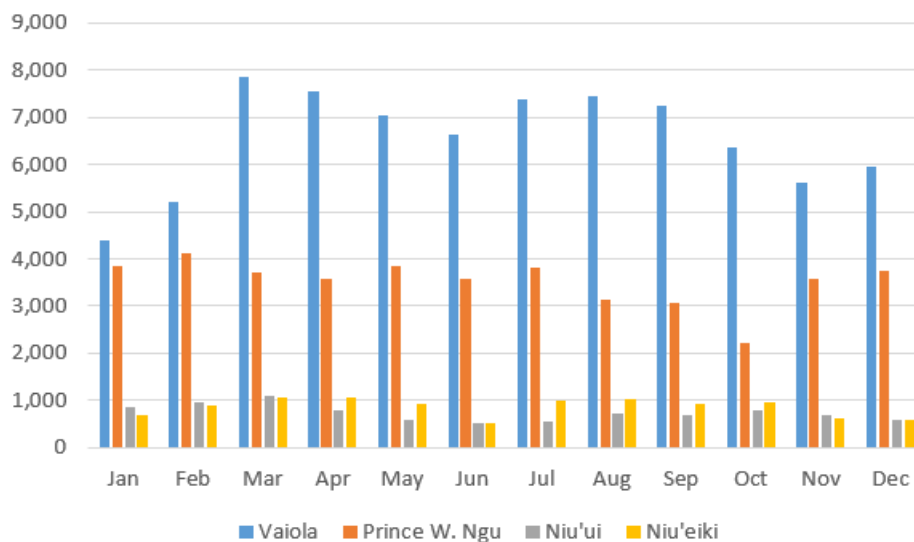
- The Infection Control Committee – for their work in addressing methicillin-resistant *Staphylococcus aureus* (MRSA), which is a bacterium that causes infections in different parts of the body and is tougher to treat than most strains of staphylococcus aureus because of resistance to some commonly used antibiotics.
- The National Blood Transfusion Committee, which strengthens the partnership between the laboratory and the NGO's working in this important area.
- The Disaster Response Committee
- The Facility and Equipment Committee, which has been revived, and has highlighted the need for greater communication and resource allocation to ensure the ongoing care and maintenance of facilities and medical equipment. The work of this committee enables us to enhance service delivery and patient safety through the appropriate acquisition, evaluation, and maintenance of facilities and medical equipment.

► Emergency and Outpatient Services

Section	Head of Section	Post Title
Head of Emergency and Outpatient Services	Dr. Matamoana Tupou	Senior Medical Officer

Emergency and Outpatients is responsible for delivering health services for patients seeking emergency and outpatient care. These services were very busy in March up to September 2015 at Vaiola Hospital with an average visits of more than 7000 a month while only above 4000 and 5000 per month for January, November and December. This pattern is not observed at outer island hospitals.

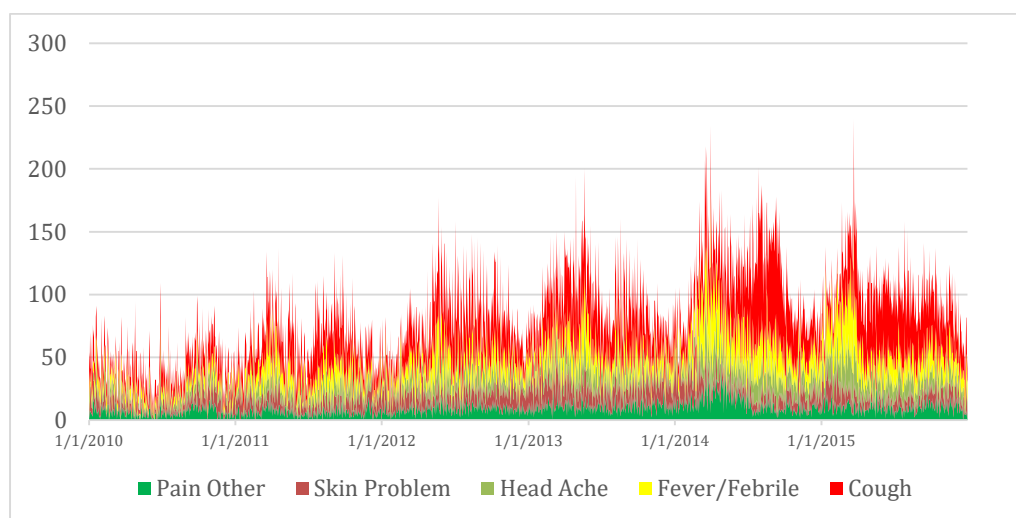
Monthly Outpatient Visits at Vaiola, Prince Wellington Ngu, Niu'ui and Niu'eiki Hospital, 2015



Source: Tonga Hospital Information System

The common causes of presenting complaint to outpatient visit is cough, followed by fever, headache, skin problems and pain from 2010 until 2015. Overall, these leading presenting complaint were on average increased over time.

5 Leading Causes of Presenting Complaint at Vaiola Hospital, 2015



► Surgical Ward

Section	Head of Sections	Post Title
Head of Ward	Dr. Viliami Tau Tangi	Chief Surgeon Specialist
	Dr. Kolini Vaea	Senior Medical Officer

The Surgical ward at Vaiola hospital is a busy 40 bed ward, which has an occupancy rate of 75%. This Ward undertakes emergency surgery (i.e. surgery performed to save a life or a limb or to prevent severe disability/complications) in conjunction with the Anaesthesia and Intensive Care Unit (ICU) Section as well as other non-elective surgery. In 2015 there were 1371 admissions to the surgical ward.

The impact of the growing rates of Non Communicable Diseases in the community is evident in the table below where you will note that, the primary cause for admission and the longest stays are for patients admitted who have type 2 diabetes, foot ulcer, DT MULT CAUSES (18.5 days).

10 Leading Causes of Admission to Mental Health Ward

Surgical Ward	Disc	Avg. LOS	Beddays	BOR
TYPE 2 DM W FOOT ULCER DT MULT CAUSES	124	18.5	2,297	15.7
OTHER AND UNSPECIFIED ABDOMINAL PAIN	48	2.7	129	0.9
CUTAN ABSCESS FURUNCLE & CARBUNCLE LIMB	42	5.6	234	1.6
CELLULITIS OF LOWER LIMB	35	7.5	262	1.8
ACUTE APPENDICITIS W GENL PERITONITIS	18	5.8	104	0.7
CUTAN ABSCESS FURUNCLE & CARBUNCLE TRUNK	18	10.3	185	1.3
ACUTE APPENDICITIS UNSPECIFIED	16	5.3	85	0.6
OPEN WOUND OF SCALP	16	2.8	44	0.3
ORCHITIS EPIDIDYMITIS WO ABSCESS	16	2.5	40	0.3
OTHER AND UNSPECIFIED OVARIAN CYSTS	16	5.5	88	0.6
Others	1,022	7.3	7,476	51.2
Total	1,371	8.0	10,944	75.0

Specialist visiting teams

The Ministry of Health has developed strong international partnerships, these ongoing professional relationships resulted in 13 visiting specialists who were able to extend and diversify the range of services that we can offer the community. Services included Urology, Orthopaedic, Surgical, Spine, ENT, Medical, and Ophthalmology. A particular highlight was the arrival of the Open Heart International Team in September 2015.

► Paediatric and Special Care Nursery Ward

Section	Head of Section	Post Title
Head of Ward	Dr. Siaosi 'Aho	Pediatric Specialist

Our Paediatric ward is a 31 bed ward which for infants, children and adolescents with a variety of medical and surgical conditions. This ward has an occupancy rate of approximately 60% with the major cause for admission being Pneumonia, followed by viral infections and acute Bronchiolitis

10 Leading Causes of Admission to Paediatric Ward

Paediatrics Ward	Disc	Avg. LOS	Beddays	BOR
PNEUMONIA	235	2.9	685	6.1
VIRAL INFECTION	106	11.9	1,266	11.2
ACUTE BRONCHIOLITIS	102	2.3	230	2.0
DIARRH & GASTROENTERITIS PRES INFECTIOUS	93	2.1	199	1.8
DENGUE FEVER [CLASSICAL DENGUE]	54	2.0	108	1.0
FEBRILE CONVULSIONS	41	1.9	76	0.7
ASTHMA	30	1.8	54	0.5
BRONCHOPNEUMONIA	28	2.6	74	0.7
UNSP ACUTE LOWER RESPIRATORY INFECTION	23	1.8	41	0.4
CUTAN ABSCESS FURUNCLE & CARBUNCLE LIMB	22	5.2	115	1.0
Others	767	5.2	3,968	35.1
Total	1,501	4.5	6,822	60.3

Our Special Care Nursery (SCN) is a 10 bed facility that provides care for babies who are too unwell, premature, and/or small to be managed in the main ward. The ten leading causes of admission to Special Care Nursery are illustrated in the table below.

10 Leading Causes of Admission to Special Care Nursery

Special Care Nursery Ward	Disc	Avg. LOS	Beddays	BOR
OTH PRET INFNT >=32 BUT <37 COMPL WK	39	14.9	580	15.9
NEONATAL JAUNDICE UNSPECIFIED	35	5.2	181	5.0
OTHER LOW BIRTH WEIGHT 1500 - 2499G	26	5.4	141	3.9
TRANSIENT TACHYPNOEA OF NEWBORN	19	4.1	78	2.1
ABO ISOIMMUNISATION OF FETUS AND NEWBORN	9	3.4	31	0.8
OTH PRET INFNT >=28 BUT <32 COMPL WK	8	27.4	219	6.0
NEONATAL ASPIRATION OF MECONIUM	7	5.1	36	1.0
SINGLETON BORN IN HOSPITAL	7	3.4	24	0.7
SYNDROME OF INFANT OF A DIABETIC MOTHER	4	4.3	17	0.5
BACTERIAL SEPSIS OF NEWBORN	3	3.3	10	0.3
Others	28	14.6	409	11.2
Total	185	9.3	1,726	47.3

The first Masters level qualification in Paediatrics was successfully completed at the MOH. It was completed locally, under the guidance of the University of Sydney and local Paediatric Specialist, Dr. George 'Aho.

► Shriners hospital for children

The history between the Ministry Of Health, Tonga and the Shriners hospital for children (SCH) had unfortunately, for some uncertain reason ended in the 1980's after an active relationship during the 1970's whereby 81 children from Tonga were transferred and treated at SHC.

The relationship however, between SHC and MOH Tonga has been re-established since 1980 during a short-visit by the Hon. Minister of Health to SCH-Honolulu after the WH RCM meeting in Guam 2015. This refreshing re-establishment between the Ministry of Health and SCH has provided the children of Tonga under the ages of 18 with free orthopedic surgical care offered by SCH which include the available treatments (but not limited to) hand, arm and shoulder disorders; hip, knee and foot disorders; plastic surgery and post burn care, spinal deformities including scoliosis, sports injuries, complicated fractures and other orthopedic conditions.

It was agreed upon, that the Government of Tonga will be responsible for paying two air tickets to/from Hawaii for each patient referred and the patient/guardians will be responsible for taking a pocket money estimated at \$USD10/day to pay for their food as well as the costing of their passport renewal, photos and Visa into the country. Accommodation and treatment is free.

This re-establishment between the SCH and the ministry aims to strengthen the professional working relationship with key development partners such as Shriner Hospital for Children of Honolulu, in addressing needs of children in Tonga.

Shriners hospital for Children in Honolulu Hawaii was established by the Shriners in 1922. It is a state-of-art facility whereby the provisions of quality care for a wide range of orthopedic neuromuculoskeletal and neurodevelopmental disorders and conditions are offered. The availability of the fracture clinic, surgery, physical therapy, occupational therapy, radiology and many more services with experts in bone, joint, muscles, brain conditions and sport injuries have made Shriner's hospital for children become recognized worldwide as the world's greatest philanthropies and are well known in their "devotion to transforming the lives of children through expert care and research" serving Hawaii and the Pacific Region.

► Mental health services

Section	Head of Section	Post Title
Head of Ward	Dr. Mapa Ha'ano Puloka	Psychiatric Specialist

10 Leading Causes of Admission to Mental Health Ward

Mental Health Ward	Disc	Avg. LOS	Beddays	BOR
SCHIZOPHRENIA	23	134.0	3,081	22.8

UNSPECIFIED NONORGANIC PSYCHOSIS	9	81.2	731	5.4
BIPOLAR AFFECTIVE DISORDER	4	62.0	248	1.8
MENTAL DISORDER NOT OTHERWISE SPECIFIED	3	63.0	189	1.4
CUTAN ABSCESS FURUNCLE & CARBUNCLE LIMB	1	3.0	3	0.0
DENGUE FEVER [CLASSICAL DENGUE]	1	1.0	1	0.0
EPILEPSY UNSPECIFIED W/IE	1	83.0	83	0.6
HYPOMANIA	1	84.0	84	0.6
OPEN WOUND OF THIGH	1	37.0	37	0.3
PERSONALITY DISORDER	1	722.0	722	5.3
Others	5	91.4	457	3.4
Total	50	112.7	5,636	41.7

There has been an increasing demand for Mental Health services. There is also evidence of a major step up in service delivery, including the following:

- A total of 41 formal sessions (1 ½ hour for each session) on the teaching of the WHO mhGAP- Intervention Guide Module to all staff (and the Grade 1 Psychiatric Assistant) of the Psychiatric Unit from the 12th of January 2015 to the 5th November 2015.
- MHRT (Mental Health Review Tribunal) for 2015 undertook a total of 31 Tribunals.
- Launching of the Disability Welfare Scheme (DWS) Program on the 12th March, 2015 by the Ministry of Internal Affairs – whereby 11 psychiatric patients were selected in accordance with the DWS selection criteria to receive a monthly allowance (from July, 2014 onwards).
- Mental Health's collaboration with Le Va, a suicide prevention NGO in New Zealand, to conduct the first Tonga Mental Health Pilot study with psychiatric patients in Tonga on 7th April 2015.
- Establishment of a Psychologists Committee Meeting on 21st April 2015, between the Clinical Psychologist and Psychologists from New Zealand and abroad for the purpose of peer supervision and mentoring/ capacity building.
- Official appointment of the new secretary for the Mental Health Advisory Committee, Clinical Psychologist, Mrs. M. 'Alisi T. Ve'a on the 22nd April, 2015.
- First Tapa Printing Workshop (Occupational Therapy Program) from 28th – 29th May 2015 with psychiatric patients at the Psychiatric Ward. This workshop was arranged by the Clinical Psychologist, Mrs. M. 'Alisi T. Ve'a, and was funded by the government of New Zealand through the Tonga Business Enterprise Centre (TBEC). The workshop was facilitated by trainers from the Tonga Handicrafts & Cultural Tourism Support Program.
- The Tonga Mental Health and Disability Association (TMHDA) celebrated and acknowledged donors for the benefit of Mental Health patients in Tonga on the 5th August, 2015.
- Dr. Violet Erasito Tupou (Medical Officer Special Grade) and Mrs. Salote Puloka (Senior Health Administrator) attended a 3 day workshop (31/08/2015 – 2/09/2015) on strengthening mental health policies and programmes in the Western Pacific Region, sponsored by WHO.
- Separate Island Tours to Vava'u (7/09/2015 – 11/09/2015) and Ha'apai (23/11/2015 – 27/11/2015) by the Mental Health Welfare Officer, Mr. Siosua Taumoha'apai and Authorized Medical Practitioner/ Medical Officer, Dr. Pita Pepa.
- Mental Health Week celebrated on the 5th October to the 9th October, 2015, with activities located at the Digicel Square, following the theme of "Dignity in Mental Health".

- Filitonu Drama group's first visit to the Psychiatric Ward on 22nd October 2015 to entertain psychiatric patients. This was arranged by the Clinical Psychologist as part of the Mental Health Unit's strengthening of our collaboration with Tonga Family Health.
- The Minister of Health formally noted on 27th November 2015 that Vaiola hospital Psychiatric Unit is in a satisfactory state to be declared a Mental Health facility in accordance with the Mental Health Act No.8, 2001; Section 117, subsection 2).
- The Ministry of Internal Affairs Social Protection and Disability Division marked the 2015 National Disability Day in Tonga with a variety of activities including group singing competitions. With the support from the Mental Health Unit (Authorized Psychiatrist i/c Psychiatric Unit, Medical Officers, Clinical Psychologists, Sister in Charge, Psychiatric Assistants, nurses, and other mental health staff), the psychiatric patients' Le'o Ma'ananga Band was registered to join the singing competition (as part of the psychiatric patients' therapeutic program). On 3rd December 2015 the band won the first prize of \$1000.00 cash, for the Category B singing group competition. The song composer and instrumentalists were all mental health clients.
- The Psychiatric Specialist – Dr. Mapa H. Puloka and the Clinical Psychologist – Mrs. M. 'Alisi T. Vea were requested by the Government of Tuvalu to conduct training in Mental Health & Psychological Support (MHPSS) and Psychological First Aid (PFA) with the Public Health Nurses of Tuvalu from the 8th December 2015 to the 17th December 2015.

► Obstetrics and Gynaecology Ward

Section	Head of Section	Post Title
Head of Ward	Dr. Ma'ake Fakaola Tupou	Specialist in Obstetrics and Gynecology

10 Leading Causes of Admission to Obstetrics and Gynaecology Ward

Obstetrics and Gynaecology Ward	Disc	Avg. LOS	Beddays	BOR
SINGLETON BORN IN HOSPITAL	1,996	1.2	2,353	16.1
SINGLE SPONTANEOUS DELIVERY	1,917	1.9	3,634	24.9
SINGLE DELIVERY BY CAESAREAN SECTION	242	6.2	1,511	10.3
UNSP INFECTN URINARY TRACT IN PREGNANCY	106	2.8	298	2.0
SPONT ABORTION INCOMP OTH/UNSP COMP	79	1.9	149	1.0
DM ARIS AT / AFT 24 WK GEST NONINSLN TRT	65	1.7	110	0.8

PRETERM DELIVERY	45	5.5	246	1.7
DM ARISING AT / AFT 24 WK GEST INSLN TRT	42	2.2	93	0.6
POSTPRT CARE UNPLANNED OUT OF HOSP DELV	37	4.8	179	1.2
MILD HYPEREMESIS GRAVIDARUM	29	3.1	90	0.6
Others	432	2.8	1,194	8.2
Total	4,990	2.0	9,857	67.5

The care for women in general and pregnant mothers and their newborn in the year 2015 reached some milestones that the unit has never achieved before.

In the previous year (2014) Dr Filimoto Makameone Taumoepeau manned the unit at most time by himself. Dr. Maake Tupou returned from his work with the Fiji National University to join the unit. For the first time ever in the history of the MOH that we managed to employ two specialists in the field of O&G at the same time and this was quite an achievement and added value to the care of women in the kingdom. Dr. Siaki Ela Fakauka also returned in the same year to complete some of the courses for his Master's degree locally. Both Dr. Fakauka and Dr. Fuka completed their MMed degree in December 2015. This was a transitional and planning period for the O&G unit. Dr. Taumoepeau slowly handover his skills of 43 years of service to the new doctors in the unit and retired by December.

Another highlight for the MOH in field of Obstetrics is the establishment of the Gestational Diabetes Taskforce and working directly with Tonga Health in fulfilling the National Strategies for control and prevention of NCD. Its greatest achievement was the establishment of a national Gestational Diabetes screening and management guidelines. For the first time in the history of the MOH we were screening all pregnant women in Tongatapu for GDM starting in October 2015 using international/local guidelines.

In this venture, the O&G unit work collaboratively with other disciplines in the hospital involving upgrading of the lab, securing the services of the diabetic centre with heavy involvement of the dietician and physicians together with the Obstetricians in the leading role. This initiatives by the MOH in the area of GDM is the first in the region and recognised internationally. This effort was highlighted on the International NCD Summit later in the year 2016 held in Tonga. A long term plan for this work is to extend this effort to cover the whole of Tonga.

In addition, the strive for equity of care and universal health coverage, the O&G unit started the feasibility work on decentralising the antenatal care and working on the treatment guidelines for O&G care. This work is in support to the effort initiated by the MOH to push for health for all and breakdown the barriers to accessing health care in Tonga.

► Medical Ward

Section	Head of Section	Post Title
Head of Ward	Dr. Sione Latu	Physician Specialist

Medical Ward is responsible for providing internal medicine and primary care for the nation including consultation medicine (inter-departmental, inter-island and overseas referrals). In 2015 there were 1375 admissions to the Medical ward the 10 leading cause for admission to the 40 bed medical ward are provided in the table below.

10 Leading Causes of Admission to Medical Ward

Medical Ward	Disc	Avg. LOS	Beddays	BOR
PNEUMONIA	85	4.2	361	2.5
DENGUE FEVER [CLASSICAL DENGUE]	77	3.4	258	1.8
CONGESTIVE HEART FAILURE	57	5.5	312	2.1
COPD WITH ACUTE EXACERBATION	50	3.4	172	1.2
LOBAR PNEUMONIA	50	3.9	196	1.3
CEREB INFARCTION DT THROMBOSIS CEREB ART	40	20.5	818	5.6
CELLULITIS OF LOWER LIMB	36	6.1	220	1.5
GASTROINTESTINAL HAEMORRHAGE UNSP	36	4.5	163	1.1
VIRAL INFECTION	29	2.5	73	0.5
DENGUE HAEMORRHAGIC FEVER	27	3.4	92	0.6
Others	888	5.0	4,402	30.2
Total	1,375	5.1	7,067	48.4

► **Laboratory services**

Sections	Head of Sections	Post Title	Number of supporting staff
Laboratory Specialist	Dr. Eka Buadromo	Pathology Specialist	
Pathology in Charge of Laboratory Services	Dr. Seventeen Toumo'ua	Pathologist	36

Establishing and maintaining quality standards supports the laboratory's ability to generate reliable results which inform and support clinical and public health actions. We are therefore proud to report that in January 2015, The Tonga Health Executive committee endorsed the "Tonga National Laboratory Quality Standards" These standards are designed to ensure the accuracy and timeliness of test results, and to increase the confidence of patients, clinicians, and communities in the services provided.

Also this year the regions First Stepwise Laboratory Improvement Process Towards Accreditation (SLIPTA/ISO) audit was conducted by The Pacific Paramedical Training Centre (PPTC) Wellington Hospital New Zealand .In this audit Laboratory at Vaiola Hospital scored 3 stars or 82%, which was the second best score achieved by a Pacific Island Laboratory . They also implement laboratory activities as according to the SLIPTA audit recommendation

- There were 5 awards supported by New Zealand Government for 1 month technicians training in PPTC in hematology, chemistry, laboratory safety, microbiology and blood banking (all 5 courses were successfully completed). In addition, there was one award for 6 month microbiology training of Laboratory Medical officer in Malaysia, completed successfully.
- With the support of the Government of Australia, a new Electrolyte analyzer purchased for outer island laboratory.
- There is a major improvement in MRSA surveillance, GTT and routine Hepatitis B testing for pregnant women.

► Radiology Services

Section	Head of Section	Post Title	Number of supporting staff
Head of Radiology	Dr. 'Ana 'Akau'ola	Radiology Specialist	16

This section delivered these following services at Vaiola Hospital in 2015. The major services they rendered are Chest Radiography (Investigation for diseases, 4,555, Bone Radiography (Extremities), 2,315 health check for visa application which 1963.

Type of Investigation	Number	Type of Investigation	Number
Chest Radiography:		Bone Radiography	
Investigation for disease	4,555	Extremities	2,315
Investigation for injury	217	Cervical Spine	226
		Choracic	44
Health Requirements for:		Lumbosacral Spine	439
Other Services	609	Skull & Facial Bones	464
Visas	1,963	Pelvis & Hips	304
Adomen Radiography		Screening Programme	
General Abdomen	486	Myelogram	
Ba Meal	12	Venogram	
Ba Enema	1	Sialogram	2
Urography		MCU	2
		Foreign Body	144
TOTAL			11,783

In later 2014 Vaiola Hospital received a mammography machine from Lake Imaging, Ballarat, Victoria. In 2015 with the support of our NZMTS, SSCIPS and DFAT two laboratory staff received specialised training and completed placements overseas which enabled Radiology to open this important new service. When the service began an open invitation was sent to all women over 50 (living in Tonga) inviting them to come for a mammogram. Women of this age were targeted as the majority of breast cancers occur in women aged over 50 years and regular mammograms are the best way to find breast cancer early, when treatment is likely to be most successful. In the first two weeks of establishing the new services we were able to attract 71 women and 8 of these women had either positive results or in equivocal findings needing further investigation with lumpectomy.

► Pharmacy Services

Section	Head of Section	Post Title	Number of supporting staff
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Head of Pharmacy	Melenaite Mahe	Principal Pharmacist	28
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Pharmacy is responsible for providing pharmaceutical services for Vaiola Hospital and the entire nation. This table shows the number of prescription and items that have been dispensed by this section at Vaiola Hospital, during AM and PM Shift as well as in the Clinic and Inpatient Pharmacy.

Number of prescriptions and items dispensed from each pharmacy (Vaiola Hospital), 2015

Month	General Outpatient Pharmacy				Clinic Pharmacy		Inpatient Pharmacy	
	AM Shift		PM Shift					
	No. Pres	No. Items	No. Pres	No. Items	No. Pres	No. Items	No. Pres	No. Items
Jan	4509	7906	4338	7753	3069	10315	282	695
Feb	4928	8351	4131	7059	3016	9167	259	670
Mar	5,775	10,059	5183	9238	3370	10,670	322	845
Apr	5376	9821	3392	5927	3205	10,507	265	608
May	5423	9702	3474	6279	3287	9787	233	549
Jun	5288	9596	3540	6319	3607	10,863	286	617
Jul	5147	8486	3517	5853	3713	11282	307	735
Aug	5574	9667	3349	6244	3371	11,112	237	589
Sep	5649	10,331	3346	5900	3277	10,834	233	615
Oct	5642	10,092	3311	5905	3558	12,191	208	510
Nov	5121	9035	3239	5753	3002	10,394	164	419
Dec	4565	8318	3215	6105	3006	9981	225	517
Total	62,997	111,364	44,035	78,335	39,481	127,103	3,021	7,369

► **Ophthalmology Services**

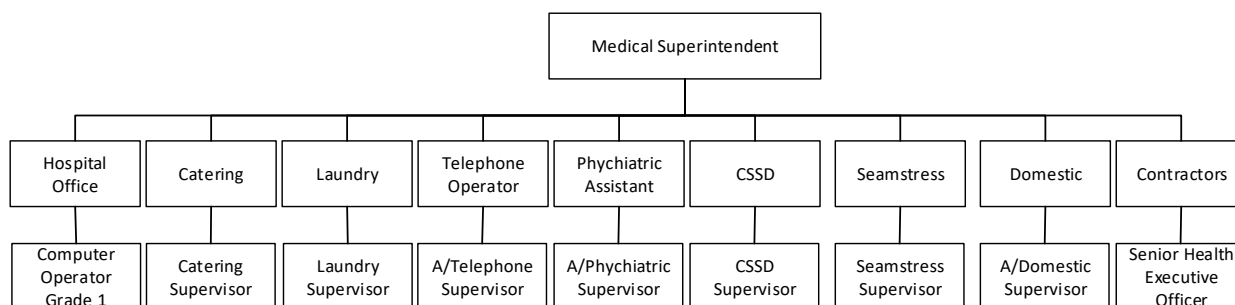
Ophthalmology is responsible for delivering eye care services for inpatients and outpatient patients. This section rendered 7,432 services at Vaiola Hospital in 2015.

No.	Services	2015		
		F	M	Total
1	No Diabetic Retinopathy	825	397	1,222
2	Review	382	395	777
3	Others	1,019	807	1,826
4	Conjunctivitis	445	341	786
5	Diabetic Retinopathy	392	166	558

No.	Services	2015		
		F	M	Total
6	Cataract	222	212	434
7	Presbyopia	262	164	426
8	Refraction	368	188	556
9	Pterygium	116	89	205
10	Routine Test	40	28	68
11	Contusions Eye Injury	4	8	12
12	Argon Laser for Retinopathy	50	42	92
13	Corneal Ulcer	46	109	155
14	Traumatic Eye Injury	22	95	117
15	Cataract Operation	11	14	25
16	Minor Surgery	12	9	21
17	Lucentis Injection	31	30	61
18	Uveitis	2	2	4
19	Other Injury	13	24	37
20	Glaucoma	24	12	36
21	Major Surgery		2	2
22	Yag for Capsulotomy	2		2
23	ExcChalazion	2	2	4
24	Exc Pterygium	4		4
25	Repair Perforation Eye	2		2
	Grand Total	4,296	3,136	7,432

► Non-Clinical Services/Support Services

Organizational structure (Head of Division, Section and Head of Sections)



Prior to 2015, it was becoming increasingly recognised that the provision of support services outside of the hospital building was creating barriers to effective service delivery. Decentralization measures that

included moving procurement and accounts staff to the hospital are expected to achieve three major objectives:

- improved efficiency in service provision
- greater transparency
- better accountability to service users within clinical services.

Infrastructural development

Another significant achievement within non-clinical/support services was the improvements made within catering services, namely an increased focus on dietetics, the drafting of a catering service policy and procedure manual, and a complete upgrade of the kitchen facilities. The kitchen upgrade ensures that the layout of the premises minimises opportunities for food contamination, and improves working conditions. The development of a policy and procedure manual that reflects current best practice guidelines ensures safe food handling practices are followed.

Oxygen Plant

Vaiola Hospital has its first Oxygen Plant in 1990. Now it has two supplying Medical Oxygen through pipeline to the Hospital and the other Plant is for refilling Cylinders for Niu'ui Hospital, Niu'eiki, Health centers and Outpatient. A new Oxygen Plant were being established at Prince Ngu Hospital in 2015 which has the potential to also serve Niu'ui Hospital where needed.

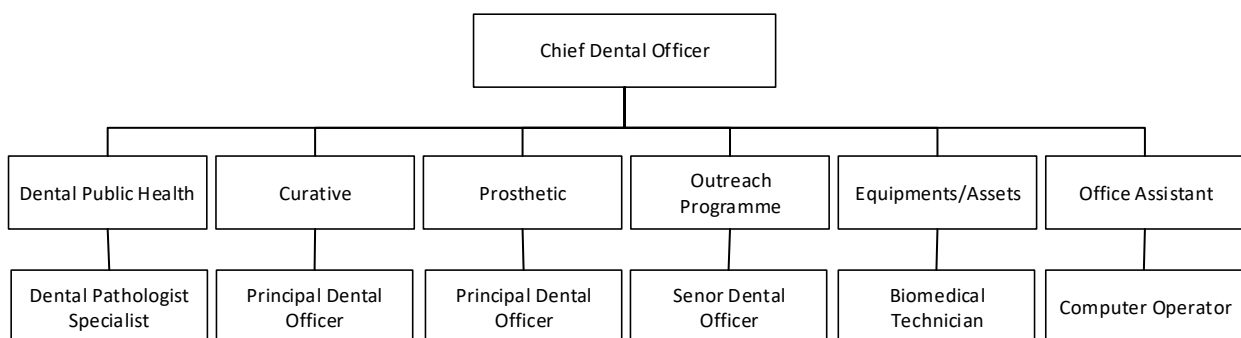


Having these specialized equipment and facilities improve the efficiency of serving the hospital needs in a timely manner instead of relying on overseas supplier. In addition, the safety of staff and patient would be improved significantly by reducing handling of heavy oxygen cylinder even the better control of the percentage of Oxygen purity.



5.6 Dental Services

5.6.1 Organizational structure (Head of Division, Section and Head of Sections)



Sections	Head of Section	Post Title	Number of Supporting Staff
Head of Division	Dr. 'Amanaki Fakakovikaetau	Chief Dental Officer	31

5.6.2 Financial and Human Resources

Category	Past spending performance				Corporate Plan & Budget		
	FY 2014/15		FY 2015/16		FY 2016/17	FY 2017/18	FY 2018/19
	Original Budget	Provisional Outcome	Original Budget	Provisional Outcome	Budget	Projection	Projection
Executive Staff (levels 0 to 2)	0	0	0	0	0	0	0
Professional Staff (Levels 3 to 9)	14	9	15	15	16	16	16
Other Staff (Levels 9A to 14A)	29	30	31	31	28	28	28
Total Established Staff	43	39	46	46	44	44	44
Unestablished Staff	4	4	2	2	2	2	2
Total Staff (Established & Unestablished)	47	47	48	48	46	46	46
Total Recurrent Ministry Costs (\$ millions)	1.27	1.27	1.46	1.36	1.51	1.58	1.58

5.6.3 Key Milestones

5.6.3.1 Oral Health Week

► Dental week

The Dental department introduced a Dental Week in the last week of August for the purpose of creating public awareness and making basic educational messages to improve dental health clear to the public and to schools.

In 2015, the public participated in various programmes, starting with Sunday Services at the Centurion Chapel and continuing on to community programmes for Tongatapu schools. One of the programmes was an Open Day where dental staff delivered dental check-ups for students and onsite interventions where possible, and then showcased key dental services that are available to the public. It is also an approach to inspire the younger generations and generate interest in pursuing a career in dental related fields. The programme concluded with a walk for health, which was well supported and participated in by the public.

5.6.3.2 Outreach programme

Prosthetic services are commonly delivered on Tongatapu. The programme has been slowly introduced to the outer islands, starting in Vava'u. The demand for this service has increased in recent years, and the department has also put more effort into strengthening the capacity to serve the public on Tongatapu and in the outer islands in the coming years. The following table summarises key services that were delivered in 2015.

No.	Services	Number
1	Patients with Complete dentures	64
2	Patients with Full Upper Only	17
3	Patients with Full Upper & Partial Lower	10
4	Patients with Full Lower Only	13
5	Patients with Full Lower & Partial Upper	5
6	Patients with Partial Partial Dentures	18
7	Patients with Partial Upper Only	55
8	Patients with Partial Lower Only	11
9	Patients with Fractured and Repaired Dentures	20
10	Patients with Relined Dentures	5
11	Patients for Tooth Addition to existing dentures	7
12	Patients that have been adjusted to alleviate pain	52
13	Patients for Removable Orthodontic Appliances	16
14	Patients for TMJ splint & Mouth Guards	16

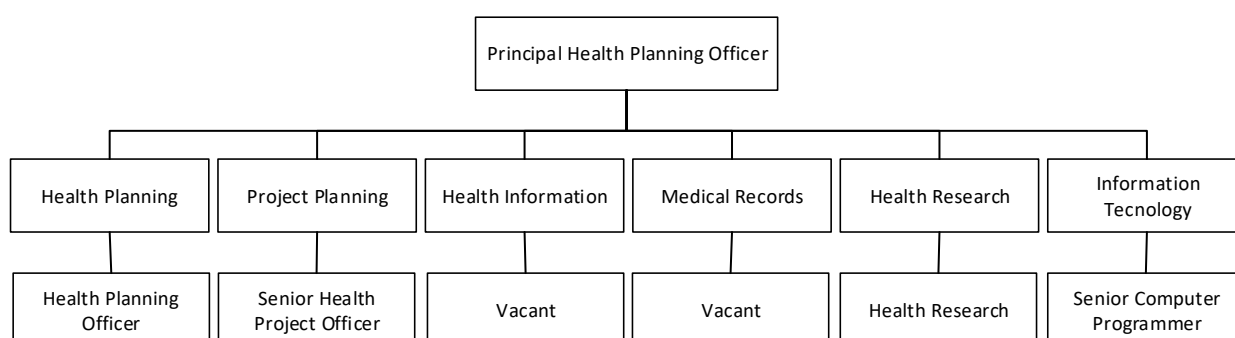
5.6.3.3 School Dental Programme

► Malimali programme

This programme has been in operation for many years now, under the support of JICA. It has focussed on secondary schools but has been further expanded to the kindergarten and primary school levels. It is anticipated that this early educational programme will improve the dental health of young children during their adolescent years and into adulthood.

5.7 Health Planning and Information Services

5.7.1 Organizational structure (Head of Division, Section and Head of Sections)



Sections	Head of Section	Post Title	Number of supporting staff
Head of Division	Mr. Sione Hufanga	Principal Health Planning Officer	28

5.7.2 Financial and Human Resources

Category	Past spending performance				Corporate Plan & Budget		
	FY 2014/15		FY 2015/16		FY 2016/17	FY 2017/18	FY 2018/19
	Original Budget	Provisional Outcome	Original Budget	Provisional Outcome	Budget	Projection	Projection
Executive Staff (levels 0 to 2)	0	0	0	0	0	0	0
Professional Staff (Levels 3 to 9)	7	7	10	10	14	14	14
Other Staff (Levels 9A to 14A)	23	23	23	23	20	20	20
Total Established Staff	30	30	33	33	34	34	34
Unestablished Staff	6	6	5	5	5	5	5
Total Staff (Established & Unestablished)	36	36	38	38	39	39	39
Total Recurrent Ministry Costs (\$ millions)	0.47	0.47	0.54	0.52	0.73	0.65	0.65

5.7.3 Key milestones

5.7.3.1 Health Project and Health Planning

5.7.3.1.1 National Health Strategic Plan 2015–2020

The staff and resources of the division were directed towards the development of the National Health Strategic Plan (NHSP) 2015–2020. This is the sixth Health Plan for the Ministry of Health, Kingdom of Tonga. It was formulated based on a consultative process with key Government and NGO stakeholders as well as key Development Partners, in the following series of steps:

- Outer Island Consultations, Nov 2014
- Sector-wide consultation, National Planning Week, December 2014
- Consultation with Key Development Partners, 26th – 30th Jan 2015
- Verification between CEOs (Health and Finance), 30th Jan 2015
- Budget Preparation, Feb–Mar 2015
- Peer review, Mar–Apr 2015
- Introduction to Parliament in July 2015.

Other findings were also considered, such as the TSDF Review, Hospital Efficiency, Public Finance, Health System and Corporate Plan Review, which were complemented by a series of scientific research projects and data collection activities such as the Demographic Health Survey, STEPS Survey, and KAP Survey. These surveys enable a better understanding of the health problems, causation, and the areas that require improvement in terms of service delivery.

► The NHSP 2015–2020:

- aims at guiding the pathway for health-related development, taking into account the roles played by other stakeholders and development partners and the requirements of Government Policies and Regulations
- will also serve as a foundation for all health-related plans and policy development, budgeting and resources allocation, data collection, research and health evaluation within the Health System and with its Development Partners
- is anticipated to undergo a thorough mid-term evaluation towards the end of 2018, in addition to the quality and annual standards monitoring system at the Ministry of Health to guide the remaining unfinished business that need to be attended to before the end of the Planning Cycle in June 2020.

5.7.3.1.2 Policy Brief, Advice and Partnership

This division was responsible for organizing/participating in the following meetings:



- Regional ICPD Dialogue, April 2015 (participated)
- Global Population and Development Commission, April 2015 (participated)
- Regional Dialogue on Universal Health Coverage, June 2015 (participated)
- National Population Health Conference on the 11th June 2015, with UNFPA (organized)
- National Health Policy and Planning on 12th June 2015, with ANU and SPC (jointly organized)



► Millennium Development Goals and Sustainable Development Goals

The Minister of Health accompanied the Prime Minister for the United Nation General Assembly 70th Session where the Sustainable Development Goals were launched in September 2015 under the financial support of the United Nation Population Funds and the Government of Tonga.



Tonga was the only Pacific Island Country who completed the MDGs Final Report. The Prime Minister, Minister of Health and the Chief Secretary and Secretary to Cabinet presented Tonga MDGs Final Report to the Administrator, United Nation Development Funds.



The Ministry is currently designing a Policy and Procedure Manual for Development Funds to guide financial management and to comply with the requirements of the Public Finance Management System.

A national policy review on ICT was completed with the assistance of the ADB. It is important for the Ministry for the following reasons:

- A health system that uses ICT requires a legal basis that guarantees protection of the rights and the interests of the citizens and all other participants. This needs a harmonized national legal framework, adapted to fit the Tongan Government's current legislation and policies concerning electronic information management.
- The legal acts regulating the usage of information technologies in the health system need to be identified and planned for, taking into account any existing legislation gaps or omissions.
- These acts are required to govern how health information is stored, accessed, and shared across geographical and health-sector boundaries.
- An individual's personal health information is often regarded as sensitive. The introduction of electronic storage and exchange of registers, health records, and other eHealth applications containing personal data and health information necessitates the adequate legal protection of this information.
- Privacy refers to the right of individuals to determine with whom, and to what extent, they share information about themselves with others. This right is addressed through three interrelated concepts:
- 'protection of personal information' which requires adherence to fair practices in managing such information

- 'confidentiality' which refers to the obligations of one person to preserve the secrecy of another's personal information
- 'security' which refers to the procedures and systems used to restrict access to and maintain the integrity of that information.
- In order to adequately protect the rights and interests of Tongan citizens, clear rules for electronic storage and access to data should be established.

5.7.3.2 Information and Research

5.7.3.2.1 Research Services

There is a strong interest and support from the clinical division which helps to build the research capacity of our Ministry and encourage an active research and innovation culture. The Research section is in the final stage of completing the Research Policy, and is to be incorporated into Amendment of the Public Health Act.

These are research projects that were reviewed and processed for approval in 2015:

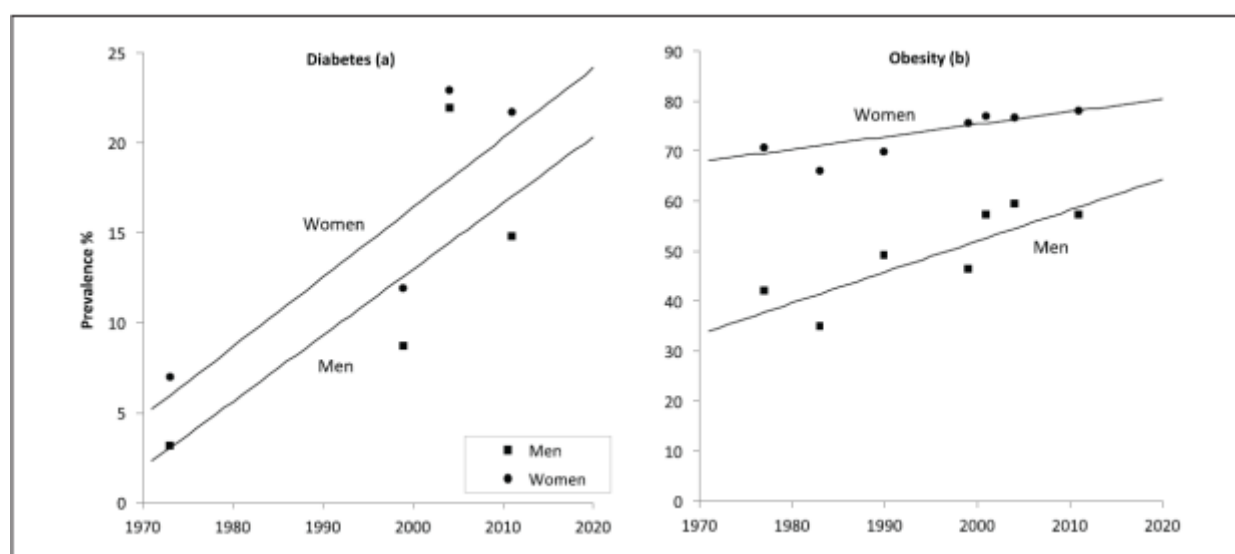
No.	Title	Principal Investigator	Date Submitted for Review	Date of Approval
1	<i>Post-Mass Drug Administration Lymphatic Filariasis Transmission Assessment Survey</i>	Dr. Reynold 'Ofanoa	2 nd of December 2014	29th of January 2015.
2	<i>Formative Research into Barriers for Participation in Physical in the Pacific</i>	Dr. Tom Carroll	20 th of February 2015	3rd of March 2015.
3	<i>Giving Birth the Voices of Tongan Women in Tonga and the United States</i>	Shelly J. Reed	18 th of December 2014	29th of January 2015 (Final Report Submitted)
4	<i>The prevalence of chlamydia among pregnant women of Tonga</i>	Dr. Louise Fonua	20 th of February 2015	19th of March 2015 (Final Report Submitted)
5	<i>Child Protection during emergencies and disaster risk reduction by Pacific Island countries</i>	Dennis Stuebing	24 th of February 2015	Terminated
6	<i>The extent to which changes in culture and lifestyle, in particular health, exercise and diet, have had an impact on Tongan society</i>	Ms. Jacinta Forde	28 th of January 2015	19th of March, 2015.
7	<i>A qualitative study exploring Tongan nurses' perspectives of the Advanced Diploma in the Prevention, Detection and Management of NCDs</i>	Ms. Kieh C. Duhn	13 th of March 2015	19th of March 2015.
8	<i>One Netball Pacific Evaluation</i>	Dr. Emma Sherry	10 th of March 2015	19th March 2015.
9	<i>Our Child Has Died – Hear Our Story</i>	Dr. Toakase Fakakovikaetau	13 th of March 2015	19th of March 2015 (Final Report

				Submitted)
10	<i>To Study The Clinical Effect of Immediate Spin Cross Match Red Cells And Full Cross match Red Cells Transfused To Patients At Vaiola Hospital</i>	Semisi Lenati	13 th of March 2015	19 th of March 2015.
11	<i>Health Outcomes after Valve-Replacement Surgery for Rheumatic Heart Disease in Tonga</i>	Linda Thomson Mangnall	<u>submitted</u> for an expedited review (student assessment) on the <u>01/06/2015</u>	31 st of August 2015
12	<i>Dengue in the Pacific, emerging public health response – a Tongan Case Study</i>	Dr. Michal H. Dick	submitted on the 19 th Sep 2015.	On hold
13	<i>The Tonga Cardiovascular Risk – Investigation project (The Tonga CAVARI Project) A cardiovascular risk factor and risk maker investigation in a Random Sample of Tongans</i>	Ole Nyvad	submitted on the 24 th Sep 2015.	27 th of October 2015
14	<i>The Processes and Impacts of Policy Changes to Improve Unhealthy Food Environments in Tonga</i>	'Etivina Lovo	<u>submitted</u> for review on the <u>13/05/2015</u>	was approved 29 th July 2015.

► Operational Research

In 2016, a picture of the trends of obesity and diabetes over the past 40 years, and their relationship, has been produced through a partnership with a research team from the University of New South Wales (Lin S., 2016).

Figure 1: Type 2 diabetes mellitus and obesity prevalence trends in Tongan adults aged 25 to 64 years, 1978-2012.



It has been identified that obesity, as judged by BMI, is the main contributor toward T2DM prevalence trends in this period, accounting for 76% (men) and 73% (women) of the increase (Lin S., 2016).

Based on the strong relationship between obesity and T2DM, a sustained moderate reduction or maintenance in population mean BMI could potentially lower T2DM prevalence, as revealed in the following diagram.

Figure 2: Potential T2DM Prevalence (%) Based on Various Mean Population Weight Difference Scenarios

	T2DM Prevalence in % (95% CI)		
	Men	Women	Tonga
Prevalence from 2012 STEPS	14.8 (13.9-15.7)	21.7 (20.8-22.6)	19.0 (18.4-19.6)
Projected in 2020 from age-period models ^b	20.3 (20.0-20.7)	24.2 (24.0-24.3)	22.3 (20.9-23.7)
Projected: no weight change 2012-2020 ^c	16.7 (15.8-17.6)	22.7 (20.6-24.7)	20.1 (19.3-21.0)
Estimated from mean weight in 2020			
Weight ^d (in kg)			
-1	15.1 (14.3-16.0)	19.5 (17.7-21.3)	16.8 (16.1-17.6)
-2	13.7 (13.0-14.5)	18.1 (16.4-19.7)	15.3 (14.6-16.0)
-3	12.4 (11.7-13.1)	16.7 (15.2-18.3)	13.9 (13.3-14.6)
-4	11.2 (10.6-11.9)	15.5 (14.1-16.9)	12.7 (12.1-13.3)
+1	18.5 (17.5-19.4)	22.8 (20.7-24.9)	20.4 (19.5-21.2)
+2	20.4 (19.3-21.4)	24.6 (22.4-26.9)	22.4 (21.5-23.3)
+3	22.5 (21.4-23.6)	26.6 (24.2-29.0)	24.6 (23.6-25.6)
+4	24.8 (23.6-26.0)	28.7 (26.1-31.4)	27.1 (26.0-28.1)

Abbreviations: CI: confidence interval; T2DM: type 2 diabetes mellitus.

^aThe above estimates are from statistical models of prevalence surveys and indicate the potential T2DM prevalence to be expected if weight had been lower or higher by the amounts specified over 2012-2020.

^bFrom linear meta-regression of T2DM prevalence estimates from 4 surveys.

^c2020 prevalence unchanged from 2012.

^dFrom age, period, BMI Poisson regression models based on Tonga data 1973-2012.

5.7.3.3 Information and Communication Technology

5.7.3.3.1 Internet Services:

Our network includes 7 Health Centres in Tongatapu, 'Eua, and Vava'u, which were all connected to our Land Area Network (LAN) of 234 computers by the end of 2015. With the support of THSP, a new anti-virus and firewall were introduced in September 2015, and the internet utilization was then cut down by at least 3-4 times the average utilization rate. This also improved the partnership with the internet provider and enabled monitoring of any suspicious access to the Ministry's network.

Prince Ngu Hospital has been equipped to become a secondary backup station for the Ministry as part of THSP investment in ICT, including the procurement of three new servers for the Ministry.

5.7.3.3.2 Other ICT Developments:

ADB supported the development of a submarine fibre optic cable system in Tonga through the Tonga-Fiji Submarine Cable Project. To harness the increased ICT capacity, the Government of Tonga requested that the ADB explore the opportunity of using electronic applications ("e-applications") to improve service delivery in Tonga under the ADB's regional technical assistance (TA): Pacific Information and Communication Technology (ICT) Investment Planning and Capacity Development Facility.

The mHealth demonstration project focuses on diabetes, with a budget of USD\$400,000 to design and implement an mDiabetes demonstration project. Preliminary assessment identified three potential types of interventions:

- targeted SMS health promotion intervention
- mobile screening for diabetic retinopathy, and
- remote patient management intervention for women with gestational diabetes.

The most preferred intervention is a remote patient management intervention for pregnant women, which combines patient education, remote patient monitoring, and patient-provider communication. It has the potential of being scaled up to other diseases and patient profiles, and has greater potential impact in reducing and managing diabetes.

Specific planned outcomes of this intervention include:

- prevention of excessive weight gain, macrosomia, premature births, and obesity
- increased access to diabetes clinics by removing weekly visits and remotely managing care, and
- reduction of emergency department visits and hospitalizations.



6. CHALLENGES

6.1 Non-communicable diseases

The disease burden is now dominated by NCDs and chronic conditions. The key priority for the health system is to place more emphasis on prevention and treatment of NCDs, and to continue to strengthen the health system within financial and human resource constraints. The NHSP 2011–2015 prioritizes prevention and system effectiveness under the banner of “doing better”, which entails the strengthening of the system to become “strong and affordable”.

Rehabilitation services remain an area of need, but human resources, medical equipment, and assistive devices to cater for this growing demand are still lacking. Long-term care and care for people with disabilities is mostly provided by family members, while a small number of NGOs and faith-based organizations also provide limited services, predominantly in Tongatapu.

The Ministry, TongaHealth, its stakeholders and Development Partners have introduced the National NCD Strategic Plan 2015–2020 that demonstrates a strong multi-sectoral approach in addressing these issues. The interventions range from policy interventions, and prevention, through to treatment of NCDs.

6.2 Quality primary health-care services

Tonga faces the challenge of ensuring that quality primary health-care services can be maintained in remote areas. The issue of equity of access to health services arises from the difficulty of providing adequate resources to Tonga's population (spread across roughly 40 islands) and, in particular, to those who inhabit remote areas which have low population density. It introduces the challenge of determining the number of key inputs, such as staff, buildings, and supplies needed to provide the optimal mix of primary, secondary, and tertiary care services needed to achieve the mission of "improving the health standards" as described in the Mission of the Ministry of Health's Corporate Plan. A similar challenge is "to support and improve the health of the nation by providing quality, effective and sustainable health services and being accountable for the health outcomes".

The Ministry, with the support from the Government of Australia and the WHO, have invested more in primary and secondary prevention, especially in rural and remote areas. The Ministry is in the process of developing and implementing common national standards for primary health care, in order to improve early diagnosis and treatment. This then helps to reduce unnecessary hospital admission in many cases.

6.3 Healthcare financing

The health services have been expanded significantly in the last decade to fulfil the health needs of Tonga. However, this growing demand is mostly supported by the Development Partners, Non-Government Organizations, Hospital Board of Visitors, and the public at large in terms of infrastructure, medical equipment and supplies, advanced training, and so forth.

The latest National Health Account report for the last 5 years reported that development funds attributed to 30% of the National Health Expenditure. To maintain these investments would require stronger commitment from the government in terms of Maintenance Cost and Operational Cost so that we can enjoy and reap the maximum benefits for a longer period.

The public as well as the government should also be prepared for a scenario where these resources may be exhausted for any reason, or the priority of the Development Partners may shift to a different focus. This will have a direct impact on the key services that Development Partners are currently supporting.

It is advisable that the public would support an excise on unhealthy food as a means of collecting more revenue for the government to maintain stronger financial support for our Health System.



7. CONCLUSION

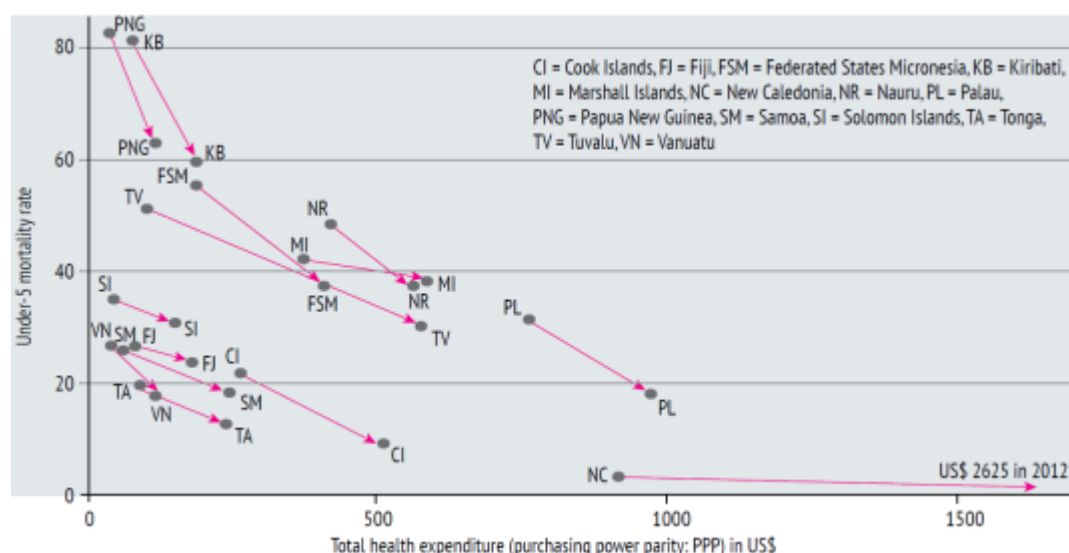
The Ministry of Health aims to provide universal health coverage, which is defined as affordable, accessible, high quality health care with protection from financial risk, to all citizens. There is evidence that a high level of access to basic health care, low out-of-pocket payments, and a relatively high level of equity in access and financing in the health system has been successfully achieved, particularly in relation to communicable diseases, and maternal and child health.

Health Outcomes are commonly measured by child and adult mortality. Historically, child mortality has been reduced significantly in the last 80 years (reduced from 60 infant deaths per 1000 in the late 1930s to 10.3 infant deaths per 1000 in 2015). This has been due to effective maternal and child services and family planning. On the other hand, adult mortality has constantly increased to at least 3 times higher than most developed countries. WHO and SPC have produced a technical report that covers those areas for Pacific Island communities including Tonga (WHO, The first 20 years of the journey towards the vision of healthy islands in the Pacific, 2015).

► Child Mortality

Tonga is amongst the forerunner countries who have experienced better health outcomes (by reducing child mortality from 20 per 1000 in 1995 to 15 per 1000 in 2012) at lowest possible cost (estimated at US\$250 based on WHO estimates in 2012). The most recent estimates reveal a further reduction in child mortality to 13.3 per 1000 in 2015. Other countries such as the Cook Islands and New Caledonia can achieve the same or better but at a higher cost that may not be affordable for Tonga.

Health expenditures and under-5 mortality changes from 1995 to 2012, (WHO, The first 20 years of the journey towards the vision of healthy islands in the Pacific, 2015)



Source: The first 20 years of the journey towards the vision of healthy islands in the Pacific, 2015, WHO

► Adult Mortality

Although the problem of NCDs has escalated faster in Tonga in the last two decades, Tonga has one of the three lowest rates of premature NCD-related deaths compared to other Pacific Island Countries. However, the rate is still higher than the world average.

Rates of premature (under age 60) NCD-related deaths: selected PICs and world average, 2014 (WHO, The first 20 years of the journey towards the vision of healthy islands in the Pacific, 2015)



Source: The first 20 years of the journey towards the vision of healthy islands in the Pacific, 2015, WHO

The problem of NCDs has remained the primary focus of the Ministry, stakeholders, and Development Partners since it is the biggest disease burden for Tonga. The Ministry has introduced the National NCD Strategic Plan 2015–2020 with its stakeholders and Development Partners to address this challenge in a more systematic way, with a stronger, more unified approach and special emphasis on policy intervention, prevention, early detection through screening, and treatment.

As part of the Ministry's health system strengthening, the Ministry strongly advocates and will strive to produce more professional standards, including a common national standard for primary health care. This is to ensure that all community-level facilities conform to these standards, so as to ensure that all communities receive standardized and quality Primary Health Care. The connections between the primary, secondary, and tertiary levels of service delivery require strong referral mechanisms to improve the accessibility and quality of health service delivery for the people who reside in remote areas.

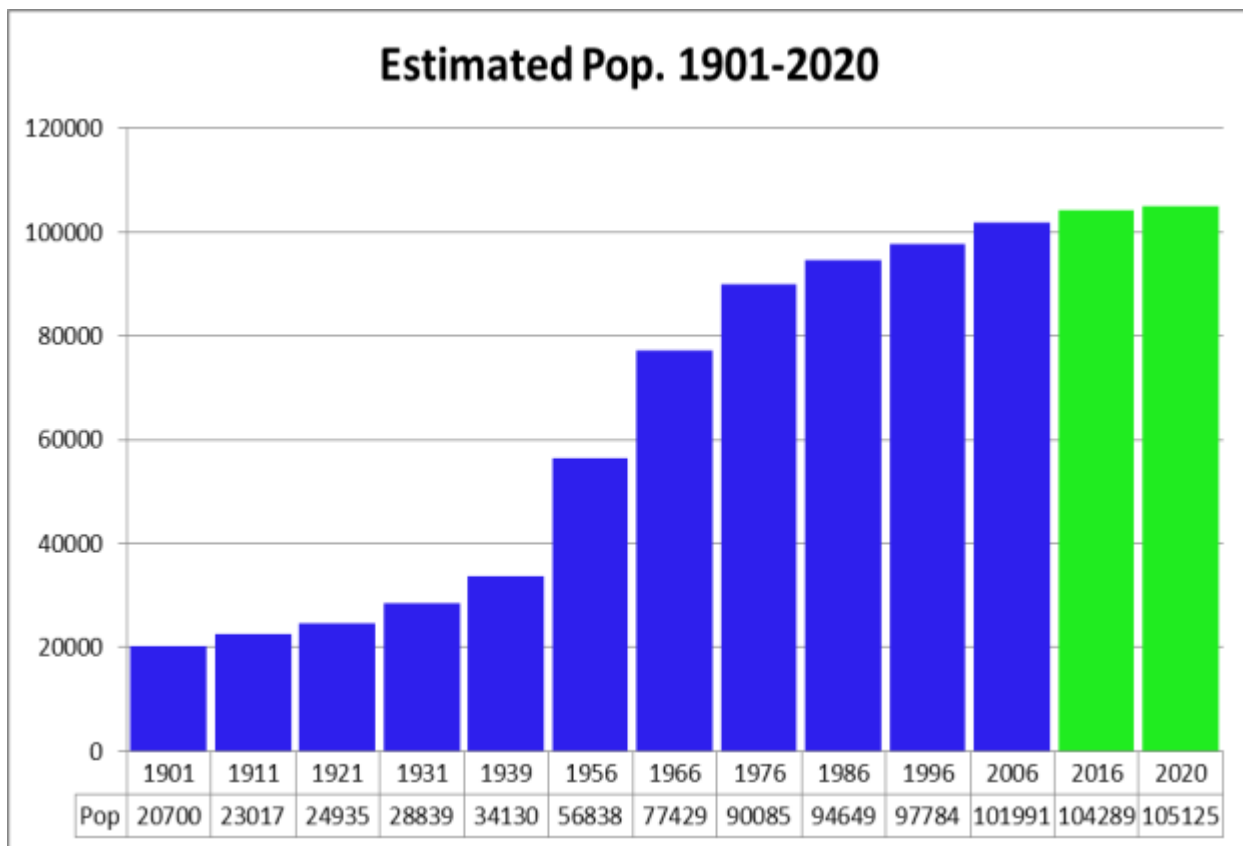
The Ministry of Health is very grateful for the generous contribution (finance, technical assistance, medical equipment and supplies) from development partners such as WHO, UNFPA, DFAT, NZaid, JICA, Saint John of God Hospital, Fofu'anga, Vaiola Board of Visitors, and the general public. Such donations help shoulder the costs of the nation's health care services.

The outcomes of the Ministry's services as documented in this report may not have been possible without the public cooperation, support, participation, and patience. In the spirit of Universal Health Coverage, the Ministry urges for even stronger partnerships in the future so that joint fulfilment of our vision may be possible, and Tonga may be the highest standard health care provider in the Pacific, as judged by international standards in 2020.

8. APPENDIX

8.1 Population

8.1.1 Population Estimates and Projection



8.1.2 Population by Sex, 2006 – 2015

YEARS	BOTH	MALE	FEMALE
2015	103,283	52,220	51,062
2014	103,321	52,191	51,130
2013	103,302	52,132	51,169
2012	103,219	52,042	51,177
2011	103,252	51,979	51,273
2010	103,641	52,575	51,067
2009	103,185	52,351	50,834
2008	102,730	52,127	50,603
2007	102,259	51,898	50,361
2006	102,907	52,561	50,346

Source: Tonga Population Census 2011 Demographic Analysis

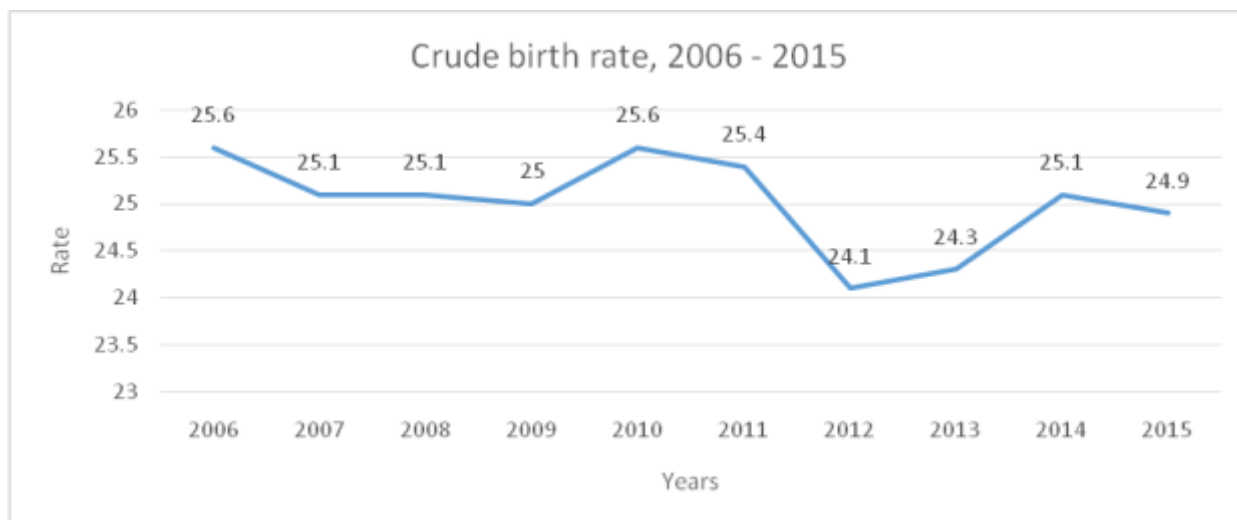
8.1.3 Population Breakdown by Sex and Age Group, 2015

AGE GROUPS	TOTAL	ACCUMULATE %	MALE	FEMALE
ALL AGES	103283	100%	52,220	51,062
0 - 4	13195	13%	6,990	6,205
5 - 9	13007	13%	6,803	6,204
10 - 14	12534	12%	6,521	6,013
15 - 19	11317	11%	5,976	5,341
20 - 24	9108	9%	4,740	4,368
25 - 29	6484	6%	3,224	3,260
30 - 34	6094	6%	2,848	3,246
35 - 39	5302	5%	2,549	2,753
40 - 44	5120	5%	2,474	2,646
45 - 49	5043	5%	2,542	2,501
50 - 54	3953	4%	2,000	1,953
55 - 59	3264	3%	1,540	1,725
60 - 64	2714	3%	1,283	1,431
65 - 69	2126	2%	992	1,133
70 - 74	1710	2%	776	934
75-79	1216	1%	551	665
80+	1095	1%	410	685

Source: Tonga Population Census 2011 Demographic Analysis

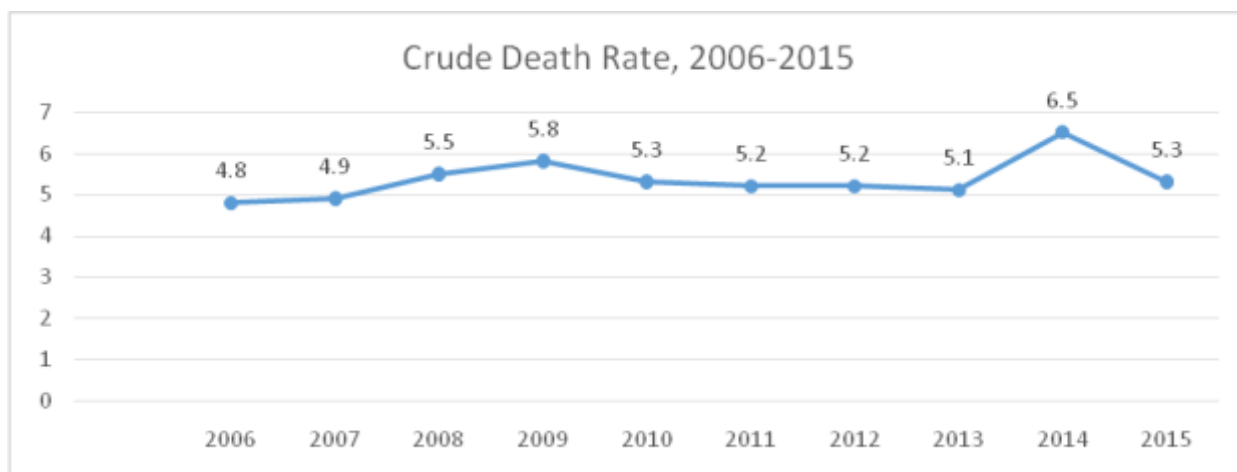
8.2 Vital Statistics

8.2.1 Crude Birth Rate (per 1,000)



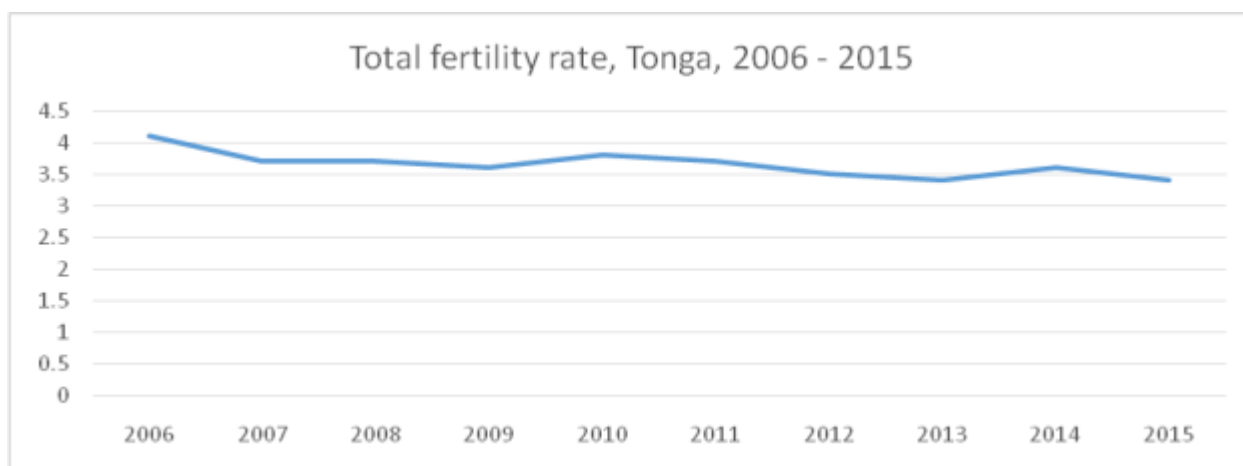
Source: Reproductive Health Services

8.2.2 Crude Death Rate (per 1,000)



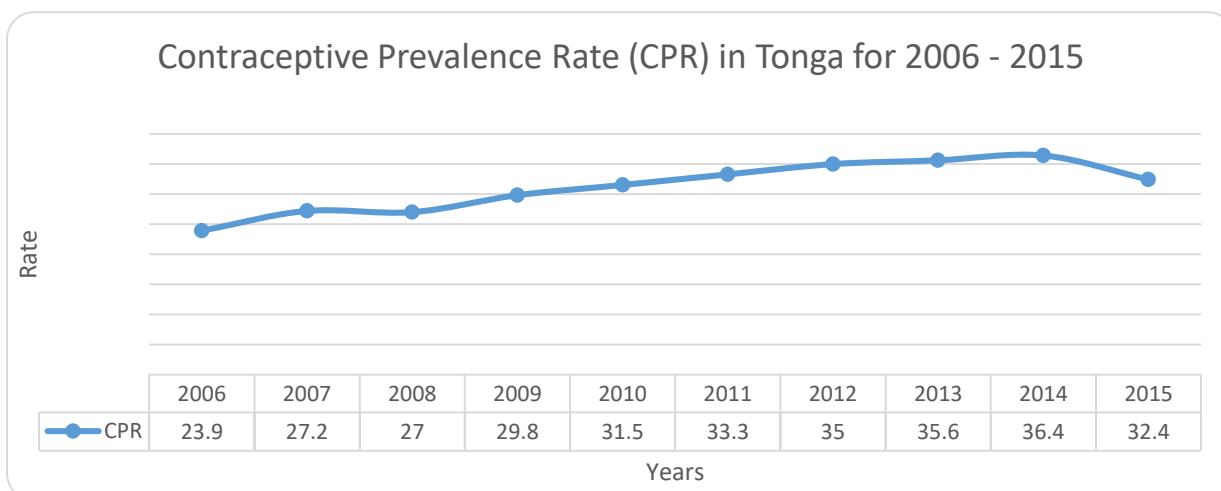
Source: Reproductive Health Services

8.2.3 Fertility Rate, 2006-2015



Source: Reproductive Health Services

8.2.4 Contraceptive Rate



Source: Reproductive Health Services

8.3 Service Delivery

8.3.1 Hospital Admissions and Outpatient Visits, 2015

Hospital Admissions	Vaiola	Prince W. Ngu	Niu'ui	Niu'eiki
Jan	2,244	102	30	42
Feb	2,196	124	35	42
Mar	2,711	117	51	42
Apr	2,117	110	44	43
May	2,164	92	30	29
Jun	2,121	78	37	40
Jul	1,989	109	31	30
Aug	2,004	130	54	38
Sep	1,707	115	28	39
Oct	1,882	95	24	29
Nov	1,456	91	31	46
Dec	1,573	62	39	32
Total Admissions	24,164	1,225	434	452
Outpatient Visits	Vaiola	Prince W. Ngu	Niu'ui	Niu'eiki
Jan	4,393	3859	857	682
Feb	5,200	4102	962	887
Mar	7,860	3714	1097	1045
Apr	7,557	3560	787	1071
May	7,047	3861	572	920
Jun	6,640	3558	531	530
Jul	7,393	3827	541	1006
Aug	7,432	3129	737	1035
Sep	7,233	3079	670	910
Oct	6,362	2229	776	948
Nov	5,630	3589	687	623
Dec	5,944	3745	570	578
Total Outpatient Visits	78,691	42252	8787	10235

Source: Health Information and Medical Records Services

8.3.2 Hospital Admissions and Outpatient Visits, 2015

Medical Ward	Disc	Avg. LOS	Beddays	Bed Avail.	BOR
PNEUMONIA	85	4.2	361	40	2.5
DENGUE FEVER [CLASSICAL DENGUE]	77	3.4	258	40	1.8
CONGESTIVE HEART FAILURE	57	5.5	312	40	2.1
COPD WITH ACUTE EXACERBATION	50	3.4	172	40	1.2
LOBAR PNEUMONIA	50	3.9	196	40	1.3
CEREB INFARCTION DT THROMBOSIS CEREB ART	40	20.5	818	40	5.6
CELLULITIS OF LOWER LIMB	36	6.1	220	40	1.5
GASTROINTESTINAL HAEMORRHAGE UNSP	36	4.5	163	40	1.1
VIRAL INFECTION	29	2.5	73	40	0.5
DENGUE HAEMORRHAGIC FEVER	27	3.4	92	40	0.6
Others	888	5.0	4,402	40	30.2
Total	1,375	5.1	7,067	40	48.4

Mental Health Ward	Disc	Avg. LOS	Beddays	Bed Avail.	BOR
SCHIZOPHRENIA	23	134.0	3,081	37	22.8
UNSPECIFIED NONORGANIC PSYCHOSIS	9	81.2	731	37	5.4
BIPOLAR AFFECTIVE DISORDER	4	62.0	248	37	1.8
MENTAL DISORDER NOT OTHERWISE SPECIFIED	3	63.0	189	37	1.4
CUTAN ABSCESS FURUNCLE & CARBUNCLE LIMB	1	3.0	3	37	0.0
DENGUE FEVER [CLASSICAL DENGUE]	1	1.0	1	37	0.0
EPIL UNSPECIFIED W IE	1	83.0	83	37	0.6
HYPOMANIA	1	84.0	84	37	0.6
OPEN WOUND OF THIGH	1	37.0	37	37	0.3
PERSONALITY DISORDER	1	722.0	722	37	5.3
Others	5	91.4	457	37	3.4
Total	50	112.7	5,636	37	41.7

Obstetrics Ward	Disc	Avg. LOS	Beddays	Bed Avail.	BOR
SINGLETON BORN IN HOSPITAL	1,996	1.2	2,353	40	16.1
SINGLE SPONTANEOUS DELIVERY	1,917	1.9	3,634	40	24.9
SINGLE DELIVERY BY CAESAREAN SECTION	242	6.2	1,511	40	10.3
UNSP INFECTN URINARY TRACT IN PREGNANCY	106	2.8	298	40	2.0
SPONT ABORTION INCOMP OTH/UNSP COMP	79	1.9	149	40	1.0
DM ARIS AT / AFT 24 WK GEST NONINSLN TRT	65	1.7	110	40	0.8
PRETERM DELIVERY	45	5.5	246	40	1.7
DM ARISING AT / AFT 24 WK GEST INSLN TRT	42	2.2	93	40	0.6
POSTPRT CARE UNPLANNED OUT OF HOSP DELV	37	4.8	179	40	1.2
MILD HYPEREMESIS GRAVIDARUM	29	3.1	90	40	0.6
Others	432	2.8	1,194	40	8.2
Total	4,990	2.0	9,857	40	67.5

Paediatrics Ward	Disc	Avg. LOS	Beddays	Bed Avail.	BOR
PNEUMONIA	235	2.9	685	31	6.1
VIRAL INFECTION	106	11.9	1,266	31	11.2
ACUTE BRONCHIOLITIS	102	2.3	230	31	2.0
DIARRH & GASTROENTERITIS PRES INFECTIOUS	93	2.1	199	31	1.8
DENGUE FEVER [CLASSICAL DENGUE]	54	2.0	108	31	1.0
FEBRILE CONVULSIONS	41	1.9	76	31	0.7
ASTHMA	30	1.8	54	31	0.5
BRONCHOPNEUMONIA	28	2.6	74	31	0.7
UNSP ACUTE LOWER RESPIRATORY INFECTION	23	1.8	41	31	0.4
CUTAN ABSCESS FURUNCLE & CARBUNCLE LIMB	22	5.2	115	31	1.0
Others	767	5.2	3,968	31	35.1
Total	1,501	4.5	6,822	31	60.3

Special Care Nursery Ward	Disc	Avg. LOS	Beddays	Bed Avail.	BOR
OTH PRET INFNT >=32 BUT <37 COMPL WK	39	14.9	580	10	15.9
NEONATAL JAUNDICE UNSPECIFIED	35	5.2	181	10	5.0
OTHER LOW BIRTH WEIGHT 1500 - 2499G	26	5.4	141	10	3.9
TRANSIENT TACHYPNOEA OF NEWBORN	19	4.1	78	10	2.1
ABO ISOIMMUNISATION OF FETUS AND NEWBORN	9	3.4	31	10	0.8
OTH PRET INFNT >=28 BUT <32 COMPL WK	8	27.4	219	10	6.0
NEONATAL ASPIRATION OF MECONIUM	7	5.1	36	10	1.0
SINGLETON BORN IN HOSPITAL	7	3.4	24	10	0.7
SYNDROME OF INFANT OF A DIABETIC MOTHER	4	4.3	17	10	0.5
BACTERIAL SEPSIS OF NEWBORN	3	3.3	10	10	0.3
Others	28	14.6	409	10	11.2
Total	185	9.3	1,726	10	47.3

Surgical Ward	Disc	Avg. LOS	Beddays	Bed Avail.	BOR
TYPE 2 DM W FOOT ULCER DT MULT CAUSES	124	18.5	2,297	40	15.7
OTHER AND UNSPECIFIED ABDOMINAL PAIN	48	2.7	129	40	0.9
CUTAN ABSCESS FURUNCLE & CARBUNCLE LIMB	42	5.6	234	40	1.6
CELLULITIS OF LOWER LIMB	35	7.5	262	40	1.8
ACUTE APPENDICITIS W GENL PERITONITIS	18	5.8	104	40	0.7
CUTAN ABSCESS FURUNCLE & CARBUNCLE TRUNK	18	10.3	185	40	1.3
ACUTE APPENDICITIS UNSPECIFIED	16	5.3	85	40	0.6
OPEN WOUND OF SCALP	16	2.8	44	40	0.3
ORCHITIS EPIDIDYMITIS WO ABSCESS	16	2.5	40	40	0.3
OTHER AND UNSPECIFIED OVARIAN CYSTS	16	5.5	88	40	0.6
Others	1,022	7.3	7,476	40	51.2
Total	1,371	8.0	10,944	40	75.0

Isolation Ward	Disc	Avg. LOS	Beddays	Bed Avail.	BOR
TYPHOID FEVER	6	22.3	134	8	4.6
CUTAN ABSCESS FURUNCLE & CARBUNCLE TRUNK	5	21.2	106	8	3.6
CUTAN ABSCESS FURUNCLE & CARBUNCLE LIMB	3	43.3	130	8	4.5
TYPE 2 DM W FOOT ULCER DT MULT CAUSES	3	30.3	91	8	3.1
ACUTE INFLAMMATION OF ORBIT	2	44.0	88	8	3.0
CUTAN ABSCESS FURUNCLE & CARBUNCLE NECK	2	42.0	84	8	2.9
CUTAN ABSCESS FURUNCLE CARBUNCLE BUTTOCK	1	17.0	17	8	0.6
INFLAMMATORY DISORDERS OF BREAST	2	22.5	45	8	1.5
ABSCESS OF LUNG WITH PNEUMONIA	1	36.0	36	8	1.2
CELLULITIS OF LOWER LIMB	1	43.0	43	8	1.5
Others	13	21.1	274	8	9.4
Total	39	26.9	1,048	8	35.9

8.3.3 Community Health Centres, Tongatapu (2015)

Outpatient Visits	Vaini	Mu'a	Kolonga	Fua'amotu	Houma	Nukunuku	Kolovai	Total
Jan	572	1,279	515	513	412	637	502	4,430
Feb	851	1,220	539	494	501	744	664	5,013
Mar	969	464	874	794	614	912	970	5,597
Apr	689	843	441	400	364	382	585	3,704
May	625	708	477	546	384	532	496	3,768
Jun	555	1,104	339	465	365	485	500	3,813
Jul	537	1,042	428	472	295	460	496	3,730
Aug	554	1,097	447	391	365	496	476	3,826
Sep	601	986	435	473	361	445	506	3,807
Oct	14	494	354	508	337	474	434	2,615
Nov	267	519	407	361	390	342	421	2,707
Dec	485	583	340	320	247	345	219	2,539
Total	6,719	10,339	5,596	5,737	4,635	6,254	6,269	45,549

Source: Community Health Services

8.3.4 Reproductive Health Services

8.3.4.1 Antenatal Clinic Attendance (New) by Trimester and District, 2015

TRIMESTER	TONGA		TT		VV		HP		'EUA		NIUA'S	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Early (12 weeks)	157	5.7%	94	4.5%	19	5.4%	21	14.5%	13	9.9%	10	34.5%
I (13-20 weeks)	575	21.0%	354	17.0%	96	27.2%	66	45.5%	46	35.1%	13	44.8%
II (21-32 weeks)	1361	49.7%	1076	51.8%	185	52.4%	31	21.4%	63	48.1%	6	20.7%
III (33+)	580	21.2%	500	24.1%	48	13.6%	23	15.9%	9	6.9%	0	0.0%
No Booking	63	2.3%	54	2.6%	5	1.4%	4	2.8%	0	0.0%	0	0.0%
TOTAL	2736	100.0%	2078	100.0%	353	100.0%	145	100.0%	131	100.0%	29	100.0%

No Booking: No ante natal care

Source: Reproductive Health Section

Description: This table provides the number of mothers attending the Antenatal Clinic by the stages of pregnancy by District for 2015.

8.3.4.2 Immunization Programme Coverage, 2015

	TONGA			Tongatapu		Vava'u		Ha'apai		Eua		Niuas	
Immunization	Tot.	Imm.	Imm.%	Tot.	Imm.	Tot.	Imm.	Tot.	Imm.	Tot.	Imm.	Tot.	Imm.
BCG 1	3,340	3,334	99.8%	2,704	2,698	342	342	148	148	128	128	18	18
Hep B Birth dose	3,349	3,343	99.8%	2,704	2,698	342	342	157	157	128	128	18	18
Polio 1	3,535	3,534	100.0%	2,897	2,896	343	343	155	155	123	123	17	17
Polio 2	3,406	3,398	99.8%	2,816	2,809	316	315	142	142	114	114	18	18
Polio 3	3,226	3,220	99.8%	2,683	2,677	279	279	148	148	96	96	20	20
DPT/HIB/Hep B 1	3,537	3,536	100.0%	2,897	2,896	343	343	157	157	123	123	17	17
DPT/HIB/Hep B 2	3,419	3,411	99.8%	2,816	2,809	316	315	155	155	114	114	18	18
DPT/HIB/Hep B 3	3,220	3,214	99.8%	2,683	2,677	279	279	142	142	96	96	20	20
MR 1	3,531	3,520	99.7%	2,823	2,813	403	402	148	148	136	136	21	21
MR 2	3,459	3,445	99.6%	2,810	2,797	378	378	132	132	120	120	19	18
DPT 4	3,459	3,445	99.6%	2,810	2,797	378	378	132	132	120	120	19	18
IPV	43	41	95.3%	30	29	6	6	7	6				
Total	37,524	37,441	99.8%	30,673	30,596	3,725	3,722	1,623	1,622	1,298	1,298	205	203

Source: Reproductive Health Section

8.3.5 Radiological Services, 2015

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Chest Radiography:												
Investigation for disease	310	370	457	425	324	364	473	393	499	393	272	275
Investigation for injury	23	24	21	12	28	21	13	14	21	9	15	16
Health Requirements for:												
Other Services	56	39	136	40	65	38	42	26	45	69	31	22
Visas	287	281	202	76	81	76	104	126	173	264	144	149
Adomen Radiography												
General Abdomen	39	51	43	32	42	45	34	26	50	40	48	36
Ba Meal	1	1			1	1	3			1	3	1
Ba Enema												1
Urography												
Bone Radiography												
Extremities	218	210	191	197	234	234	143	169	135	217	182	185
Cervical Spine	32	26	26	16	20	16	20	16	19	11	6	18
Choracic		1	3	3	4	3	7	7	6	2	3	5
Lumbosacral Spine	25	48	24	46	26	44	50	37	44	28	34	33
Skull & Facial Bones	41	42	29	26	47	34	54	43	33	38	41	36
Pelvis & Hips	26	35	26	23	18	31	16	22	29	29	17	32
Screening Programme Miscellaneous:												
Myelogram												

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Venogram												
Sialogram											1	1
MCU							1				1	
Foreign Body	12	12	12	19	13	3	5	11	11	16	9	21
Total	1,070	1,140	1,170	915	903	910	965	890	1,065	1,117	807	831

8.3.6 Pharmacy Services

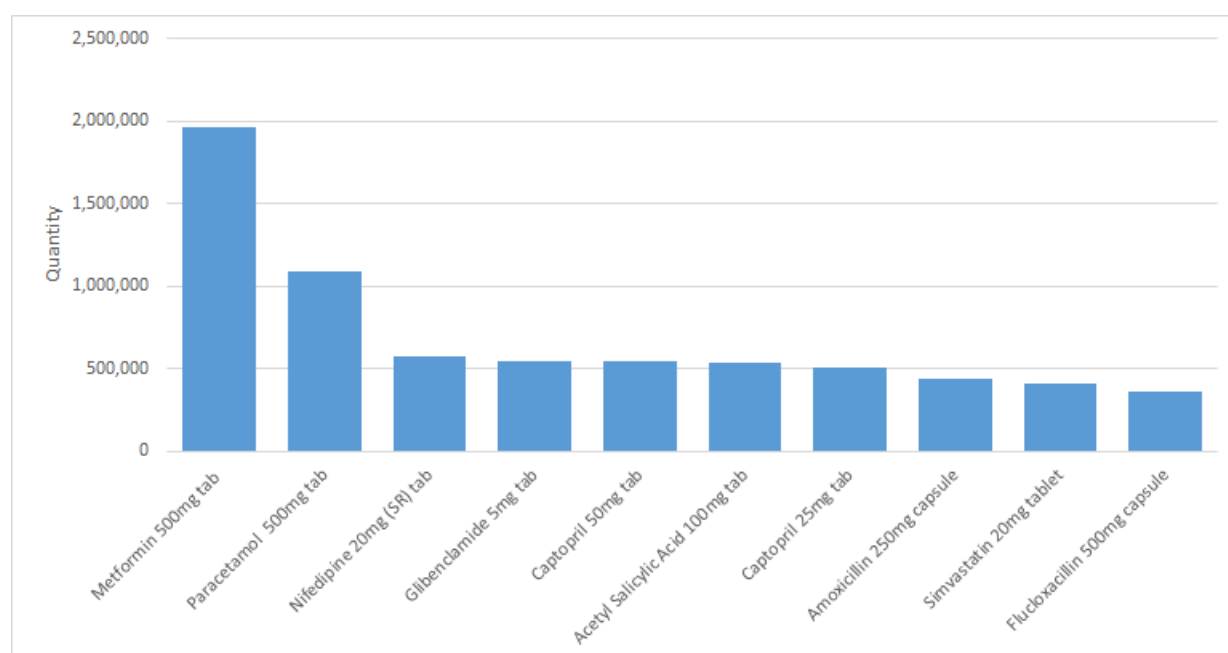
8.3.6.1 Number of prescriptions and items dispensed from each pharmacy (Vaiola Hospital), 2015

Month	General Outpatient Pharmacy				Clinic Pharmacy		Inpatient Pharmacy	
	AM Shift		PM Shift		No. Pres	No. Items	No. Pres	No. Items
	No. Pres	No. Items	No. Pres	No. Items				
Jan	4509	7906	4338	7753	3069	10315	282	695
Feb	4928	8351	4131	7059	3016	9167	259	670
Mar	5,775	10,059	5183	9238	3370	10,670	322	845
Apr	5376	9821	3392	5927	3205	10,507	265	608
May	5423	9702	3474	6279	3287	9787	233	549
Jun	5288	9596	3540	6319	3607	10,863	286	617
Jul	5147	8486	3517	5853	3713	11282	307	735
Aug	5574	9667	3349	6244	3371	11,112	237	589
Sep	5649	10,331	3346	5900	3277	10,834	233	615
Oct	5642	10,092	3311	5905	3558	12,191	208	510
Nov	5121	9035	3239	5753	3002	10,394	164	419
Dec	4565	8318	3215	6105	3006	9981	225	517
Total	62,997	111,364	44,035	78,335	39,481	127,103	3,021	7,369

8.3.6.2 Number of prescriptions and items dispensed from each pharmacy (Vaiola Hospital), 2015

Month	General Outpatient Pharmacy		Clinic Pharmacy		Inpatient Pharmacy	
	Qnt.	TOP\$	Qnt.	TOP\$	Qnt.	TOP\$
Jan	272,724	\$24,666.71	571,112	\$41,039.08	24,831	\$1,729.90
Feb	277,158	\$24,338.88	519,811	\$32,236.59	22,808	\$1,808.71
Mar	325,690	\$30,491.30	595,975	\$35,949.84	27,678	\$2,192.36
Apr	260,236	\$28,261.58	598,320	\$31,527.32	19,605	\$1,518.93
May	278,281	\$23,438.26	508,517	\$57,446.67	16,753	\$10,147.61
Jun	284,196	\$28,351.05	537,908	\$57,564.65	20,129	\$8,409.90
Jul	287,900	\$26,537.33	671,967	\$49,843.39	21,646	\$10,393.21
Aug	329,846	\$33,677.66	633,476	\$49,186.09	22,503	\$6,948.91
Sep	284,006	\$47,657.02	612,365	\$45,167.43	19,020	\$2,114.08
Oct	291,855	\$33,080.51	692,942	\$47,768.36	17,257	\$2,227.85
Nov	267,032	\$33,503.13	598,529	\$42,936.29	14,873	\$1,355.63
Dec	264,092	\$29,166.93	579,634	\$45,255.99	16,888	\$1,639.13
Total	3,423,016	\$363,170.36	7,120,556	\$535,921.70	243,991	\$50,486.22

8.3.6.3 Leading (10) drugs consumption at Vaiola, 2015



8.3.7 Laboratory Services

8.3.7.1 Specimens received and test performed, 2015

Island Group	Tonga		Tongatapu		Vava'u		Ha'apai		Eua	
UNIT	Spec. rec.	Test. Per.	Spec. rec.	Test. Per.	Spec. rec.	Test. Per.	Spec. rec.	Test. Per.	Spec. c. rec.	Test. Per.
HAEMATOLOGY	24,513	48,238	20686	30,128	2,376	15,116	822	1799	629	1195
BLOOD SEROLOGY	8,608	27,144	7904	23,455	380	2,033	241	1379	83	277
BLOOD BANK	1,815	10,956	1815	10,956			-			-
BIOCHEMISTRY	24,644	141,391	22508	128,395	2,136	12,996	-			-
MICROBIOLOGY & TB	9,273	19,666	8856	15,621	166	1,324	251	2721		
HISTOPATHOLOGY & CYTOLOGY	1,124	1,124	1124	1,124	-					
Total	69,977	248,519	62893	209,679	5,058	31,469	1,314	5899	712	1,472

8.3.8 Ophthalmology Services

Services	2012			2013			2014			2015		
	F	M	Total	F	M	Total	F	M	Total	F	M	Total
No Diabetic Retinopathy	939	409	1,348	776	350	1,126	992	469	1,461	825	397	1,222
Review	605	666	1,271	721	580	1,301	927	680	1,607	382	395	777
Others	231	223	454	259	219	478	1,060	843	1,903	1,019	807	1,826
Conjunctivitis	303	273	576	331	292	623	430	367	797	445	341	786
Diabetic Retinopathy	430	210	640	371	179	550	410	187	597	392	166	558
Cataract	281	253	534	317	251	568	349	326	675	222	212	434
Presbyopia	152	139	291	213	172	385	466	310	776	262	164	426
Refraction	211	162	373	321	221	542	264	178	442	368	188	556
Pterygium	82	68	150	84	74	158	106	79	185	116	89	205
Routine Test	124	89	213	104	78	182	70	50	120	40	28	68
Contusions Eye Injury	50	187	237	39	157	196	12	26	38	4	8	12
Argon Laser for Retinopathy	147	84	231	76	34	110	78	28	106	50	42	92
Corneal Ulcer	39	60	99	28	53	81	38	97	135	46	109	155
Traumatic Eye Injury				9	28	37	25	94	119	22	95	117
Cataract Operation				4	6	10	73	69	142	11	14	25
Minor Surgery	35	11	46	37	34	71	33	18	51	12	9	21
Lucentis Injection				10	4	14	10	17	27	31	30	61
Uveitis	14	21	35	16	20	36	2	8	10	2	2	4
Other Injury					2	2	10	58	68	13	24	37
Glaucoma	8	6	14	12	6	18	4	20	24	24	12	36
Major Surgery	4	2	6	13	2	15	3	8	11		2	2
Yag for Capsulotomy	4	9	13		2	2	8	6	14	2		2
ExcChalazion							8	4	12	2	2	4
Exc Pterygium							8	3	11	4		4
Repair Perforation Eye										2		2
Grand Total	3,659	2,872	6,531	3,741	2,764	6,505	5,386	3,945	9,331	4,296	3,136	7,432

8.3.9 Dental Services

Dental Services	2009	2010	2011	2012	2013	2014	2015
Caries - Extraction	5440	6360	6457	5339	5371	5452	3939
Temporary Filling	2933	3229	3068	2185	3409	3241	2351
Oral Hygiene Instruction	1689	1661	1797	1711	2064	3109	1660
Perio - Extraction	1663	1657	1601	1379	1385	1272	1072
Composite Amalgam	975	1694	1493	843	1546	1137	637
Antibiotic Therapy	1078	1198	1220	1006	1225	1037	781
GIC	372	1025	1091	564	611	953	470
Secondary Endo Treat - Re-instrumentation	359	756	732	588	783	647	436
Secondary Endo Treat - Pulp Ext & Canal	343	571	579	386	723	724	575
Simple Amalgam	571	594	680	494	620	482	335
Compound Amalgam	626	396	440	342	551	464	333
Scaling	223	299	287	277	540	810	585
Secondary Endo Treat - Obturation	286	379	437	337	600	470	346
X-Rays	600	332	560	318	132	579	195
Polishing	33	48	5	101	344	669	538
Endodontic Treatment	63	127	115	185	122	71	64
Other Extraction	46	101	32	75	64	73	122
Minor Oral Surgery	88	98	69	50	46	34	13
Suture Removal	84	53	34	38	64	48	35
Dry Socket	59	32	34	55	47	31	32
Primary Endo Treat - Open Drainage	83	8	0	26	41	15	10
Primary Endo Treat - Pulpectomy	3	2	0	111	50	5	3
Primary Endo Treat - Pulpotomy	0	3	0	17	3	12	71
Post & Crown Build Up	0	21	8	7	34	23	8
Partial Upper Prosthetic	0	0	0	0	63	13	4
X-Rays Facial	4	24	9	13	14	22	6
Orthodontic	8	8	1	3	7	22	28
Repair Prosthetic	0	0	0	0	39	12	3

Annual Report (2015)

Dental Services	2009	2010	2011	2012	2013	2014	2015
Full Upper & Lower Prosthetic	0	0	0	0	38	6	3
Fissure Sealants	6	6	0	5	21	9	3
Major Oral Surgery	3	4	1	7	3	8	14
Crown Cementation	0	3	2	8	4	6	7
OMF Surgical	15	7	3	1	0	1	5
Partial Lower Prosthetic	0	0	0	0	11	7	2
OMF Suture Removal	2	7	0	4	2	2	2
OMF Suture Placement	3	0	0	3	4	8	2
X-Ray Occlusal View	2	13	3	2	0	0	0
Full Upper Prosthetic	0	0	0	0	8	3	2
Prosthetic Easing	2	0	0	0	3	3	4
Full Lower Prosthetic	0	0	0	0	8	2	0
Topical Fluoride Application	0	0	0	0	0	0	0
Total	17662	20716	20758	16480	20600	21482	14696

8.3.10 Environmental Health Services, 2015

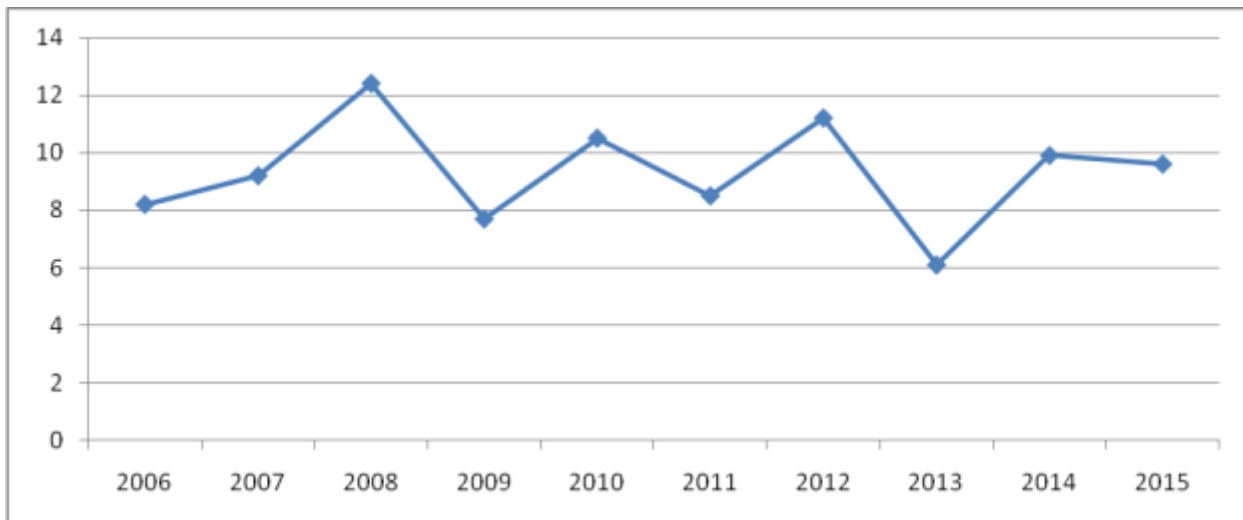
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
<u>SANITARY INSPECTION</u>												
Occupied Allotment	85	<i>For the months of February to July, the Sanitation team was focusing on the Ebola outbreak of which they have been posted at the International Airport - Fu'amotu for Border Control duties.</i>						95	52	26	305	211
Unoccupied Allotment	7							15	8	2	34	11
Private Dwelling	2							0	0	0	2	1
BBQ & Hawkeries	7							0	0	0	0	0
Bakeries	0							2	0	0	1	0
Aerated Water Factory	0							0	0	0	0	0
Food Stored	44							19	2	2	32	13
Restaurant	5							0	0	0	0	0
Snack Bars	0							0	0	0	0	0
<u>Inspection of Building Plans</u>												
Building sites	20	26	16	14	30	25	14	20	27	24	31	15
Private Dwelling	14	16	10	8	21	18	8	14	14	19	27	8
Septic tank	20	26	16	14	30	25	14	20	27	24	31	15
Public Building	6	10	6	4	9	7	6	6	7	5	4	7
TOTAL	60	78	48	40	90	70	42	60	75	72	93	45
<u>Inspection of Water Supplies</u>												
Piped	2	0	0	0	20	15	21	18	0	0	0	4
Well	0	8	0	0	0	9	5	4	7	3	3	3
Rain water	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	2	8	0	0	20	24	26	22	7	3	3	7
<u>Registration of Food Premises</u>												
Butcher shops	0	1	0	1	1	0	0	0	0	1	0	0
Bakeries	0	1	0	1	2	3	4	2	1	6	4	0
Ice cream Factory	1	1	0	0	4	0	0	2	4	1	1	0
Food stored	274	74	16	253	21	34	34	37	256	261	76	28
Restaurant	15	14	12	33	7	5	5	9	10	34	16	7
Snack Bars	4	0	0	4	0	0	0	2	1	2	2	0

Annual Report (2015)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Hawkers	12	12	4	1	4	2	1	1	1	3	15	0
TOTAL	306	103	32	293	39	44	45	53	273	308	114	35
<u>Health Care Waste</u>												
General Waste	3154	4410	3075	3750	3855	4260	4415	4466	5955	5165	3588	4865
Sharps	690	630	630	741	600	645	990	645	728	360	5025	420
TOTAL	3844	8884	3705	4491	4455	4905	5405	5111	6683	5525	8613	5285
<u>Vector Control</u>												
Number of Insecticide Spraying	0	0	0	0	0	0	28	26	0	0	0	0
Typhoid Cases	0	0	0	0	0	0	1	0	2	0	0	0
Dengue Fever Cases	17	28	0	0	0	0	0	0	0	0	0	0
No. of homes surveyed for larva	15	16	15	15	16	15	15	16	16	16	16	15
<u>Health Quarantine/ Border Control</u>												
No. of International Vessel	13	8	9	10	11	14	12	9	17	10	10	12
No. of Yacht cleared	0	0	0	0	18	0	0	6	0	1	2	1
Fishing boat	0	1	1	3	0	1	1	0	1	0	0	0
No. of flights entered the airport		48	64	64	64	64	64	Work has stopped, Ebola has been declared clear by WHO.				
No. of passengers		9600	12800	16000	10240	19200	19200					
No. of complaints	12	3	10	5	0	5	5	4	6	0	2	1
Meat Inspection	0	0	2	1	0	1	2	1	3	1	1	0
Public Meetings	2	0	5	0	1	3	4	2	3	2	1	2
Radio Programme	4	0	0	0	0	0	2	2	2	0	0	0
TV Programme	4	0	0	0	0	0	2	2	2	0	0	0

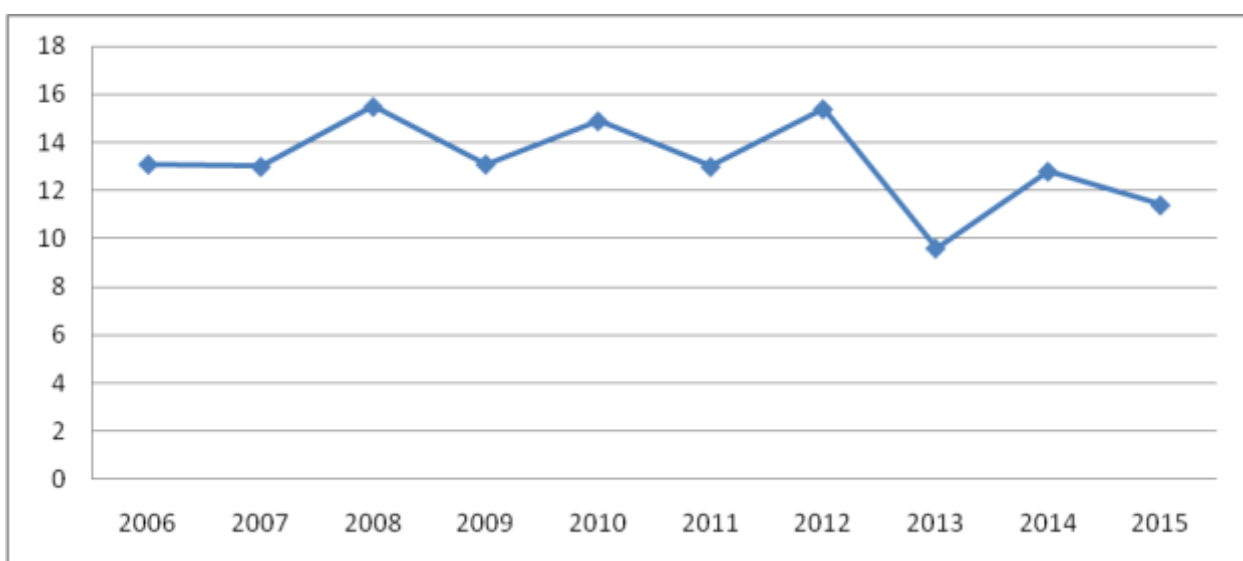
8.4 Health Outcomes

8.4.1 Stillbirth (per 1,000), 2006 – 2015



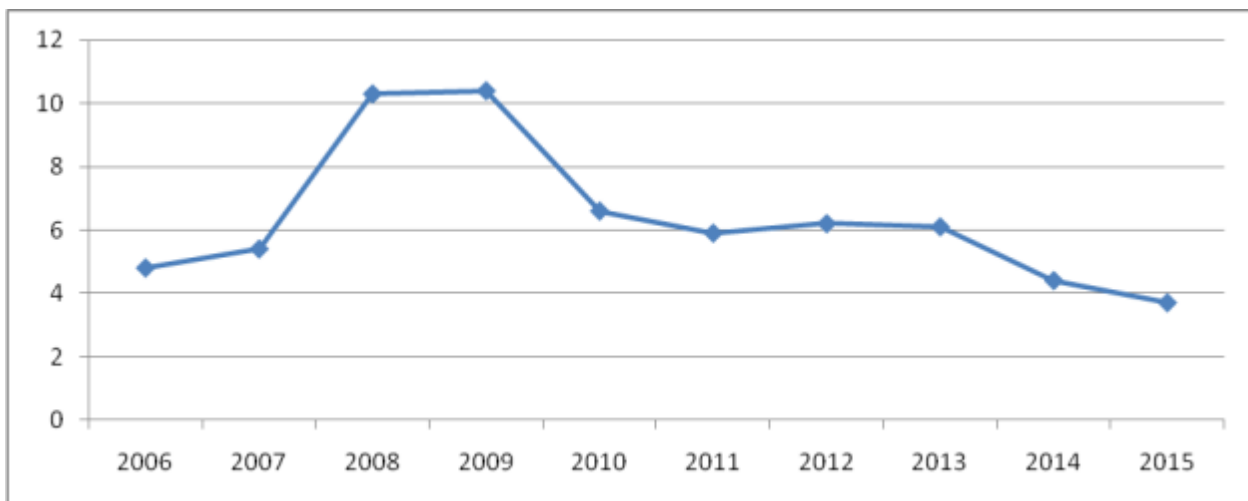
Source: Reproductive Health Services

8.4.2 Perinatal death rate – 2006 – 2015



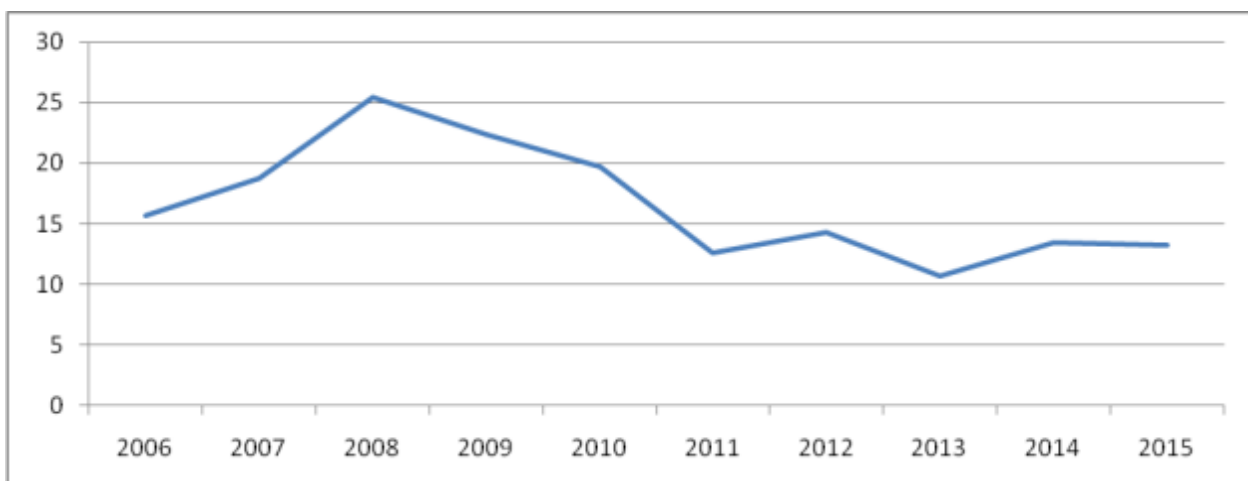
Source: Reproductive Health Services

8.4.3 Neonatal death rate – 2005 - 2015



Source: Reproductive Health Services

8.4.4 Death under 5 years old – 2006 – 2015



Source: Reproductive Health Services

