

GOVERNMENT

OF

TONGA



REPORT

of the

MINISTER

for

HEALTH

for the financial year

2011/2012

Table of Contents

1	OVERVIEW OF THE NATIONAL STRATEGIC PLANNING FRAMEWORK	4
1.1	Introduction	4
2	ORGANISATIONAL OBJECTIVES AND FUNCTIONS.....	6
2.1	Mission and Vision:	6
2.2	Our Core Values.....	6
2.3	Strategic Key Result Areas (KRA) and Goals for 2013/14 to 2015/16	6
3	HEALTH ADMINISTRATION AND MANAGEMENT.....	8
3.1	Ministry of Health Executive	8
3.2	Organization Structure.....	9
3.3	District Hospitals.....	9
3.4	Overview of Health Indicators	10
3.5	Morbidity and Mortality 2011	11
4	LEADERSHIP, POLICY ADVICE AND PROGRAMME ADMINISTRATION.....	15
4.1	Administration and Management Services:	15
5	HEALTH PLANNING AND INFORMATION SERVICES:	20
5.1	Health Planning and Information Division:.....	20
6	PREVENTATIVE HEALTH SERVICES	24
6.1	Public Health	24
7	NURSING SERVICES:	28
7.1	Nursing Services	28
8	CURATIVE HEALTH SERVICES	32
8.1	Clinical Services.....	32
8.2	Non Clinical Services.....	37
8.3	Clinical Support Services.....	37
9	DENTAL SERVICES.....	39
10	ISLAND HEALTH DISTRICTS	40
10.1	'Eua	40
10.2	Vava'u	42
10.3	Ha'apai.....	44
10.4	Niuafo'ou.....	47
10.5	Niua-toputapu	49
11	APPENDIX.....	50

List of Tables

Table 1:	Health Indicator(s) for Tonga 2007 – 2011	10
Table 2:	Mortality Estimates, 1982-2009.....	14
Table 3:	Legislation relating to the Ministry of Health	16
Table 4:	Staff Details by sub-program, 2011/2012.....	17
Table 5:	Enrolment on Health Formal Training, FNU, 2008-2011	18
Table 6:	Summary of recommended Child Health Indicators:.....	22
Table 7:	STIs seen at the Communicable Diseases Unit in 2012 by age and gender	25
Table 8:	Tuberculosis notification for 2012	25
Table 9:	Typhoid Fever and Healthy Carrier Cases by age, gender and village for 2012	26
Table 10:	Health Certificates for ShopKeepers, Food Handlers, Visa, Employment and Missionary Candidates for 2012.....	26
Table 11:	Student Recruitment and Graduate Details	28
Table 12:	Immunization Details, 2006-2011	30
Table 13:	Reproduction Indicators, 2006-2011.....	31
Table 14:	Early Childhood mortality, 2006-2011	31
Table 15:	Admission Statistics to Vaiola Hospital, 2011.....	34
Table 16:	Mental Health Key facts:.....	35
Table 17:	Demographic Summary of 'Eua Island Group for 2010	40
Table 18:	Demographic Summary of Vava'u Island Group for 2010	43
Table 19:	Demographic Summary of Ha'apai Island Group for 2010	45
Table 20:	Demographic Summary of Niuafu'ou Island Group for 2010.....	47
Table 21:	Demographic Summary of Niuaotoputapu Island Group for 2010	49

List of Figures

Figure 1:	Common Presenting Complaints over 2011	11
Figure 2:	Leading Admission to Hospital, 2011	12
Figure 3:	Leading Causes of Mortality, 2011	13
Figure 4:	Causes of Death, 2001-2009	14
Figure 5:	Distribution of outpatients visit during the time of the day, 2011	33
Figure 6:	Attendance at A&E During the day of the week, 2011	33

Statistical Tables

Appendix 1:	Health workers in 2005 and January 2013.....	50
Appendix 2:	Estimates of Health Expenditure and Revenue Government of Tonga, Fiscal Years 2003/2004-2010/2011.....	51
Appendix 3:	MOH and Government Recurrent Expenditures: Government of Tonga, 2005/2006 - 2010/2011	52
Appendix 4:	Population by Sex, 2002 – 2011	52
Appendix 5:	Population Break Down by Sex and Age Group, 2011	53
Appendix 6:	Reported Livebirths, Total Deaths and Infant Deaths Under 1 Year, 2006 – 2011	53
Appendix 7:	Reported Livebirths by Age of Mother and District, 2011	54
Appendix 8:	Reported Deaths By Age and District, 2011	55
Appendix 9:	Health Facilities by District, 2011.....	56
Appendix 10:	Health Services: Health Centre Activities, 2011	57
Appendix 11:	Ante Natal Clinic Attendance (New) by Trimester and District, 2011.....	58
Appendix 12:	Immunization Programme Coverage, 2011	58
Appendix 13:	Infant Nutritional Mode, 2011	59
Appendix 14:	Total Contraceptive Users by Method and Age, (Method Mix), 2010	59
Appendix 15:	Medically Certified Causes of Inpatient and Outpatient Deaths by Age Group, 2011	60

1 OVERVIEW OF THE NATIONAL STRATEGIC PLANNING FRAMEWORK

1.1 Introduction

The Tonga Strategic Planning Framework is a long – term strategic approach that focuses on the key determinants of economic and social development. Many of these need, by their very nature, to be addressed through consistent and sustained policy implementation over many areas. The plan also focuses on a limited number of uniquely national or whole of government priorities.

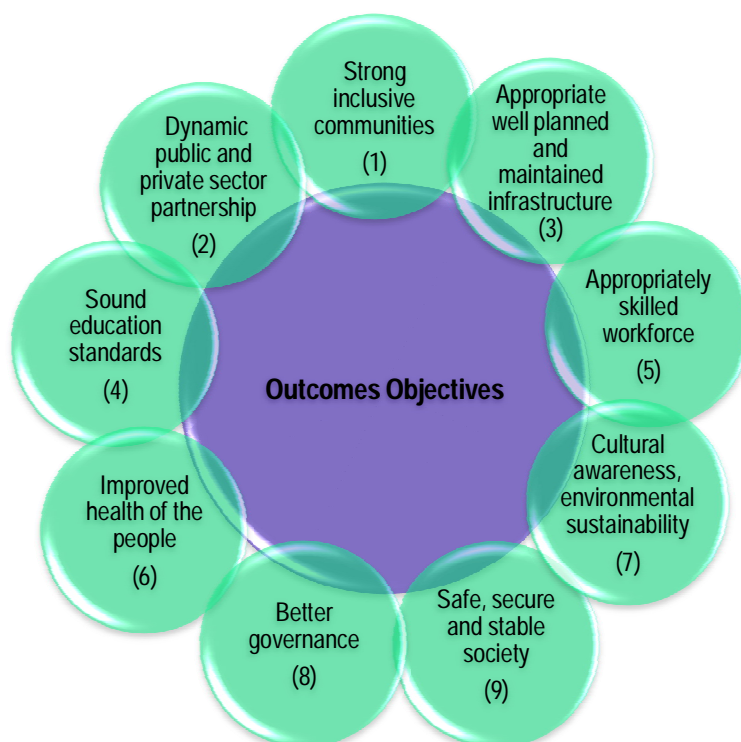
National Vision

The Vision for Tonga:

“To develop and promote a just, equitable and progressive society in which the people of Tonga enjoy good health, peace, harmony, and prosperity, in meeting their aspirations in life”.

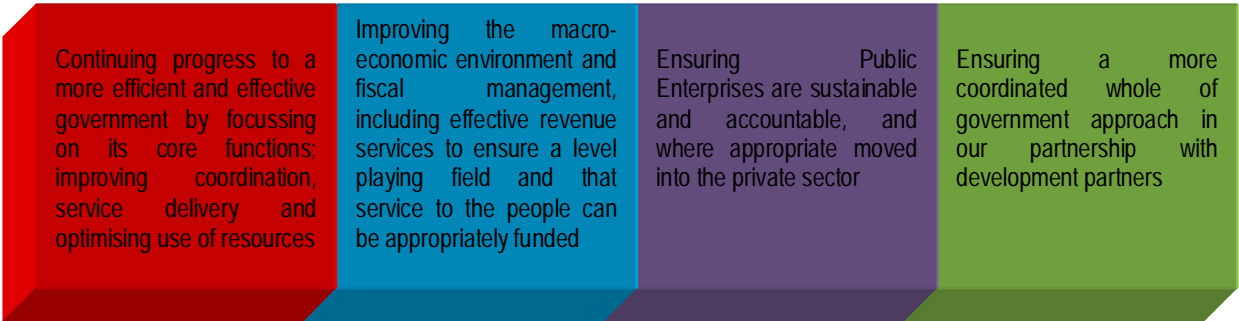
National Strategic Planning Framework Primary Outcome Objectives:

The Government's Vision in the Tonga Strategic Development Framework (TSDf) is to be achieved by delivering the following outcome objectives:



Enabling themes

- The delivery of Tonga’s Outcome Objectives is facilitated through:



2 ORGANISATIONAL OBJECTIVES AND FUNCTIONS

The Ministry of Health is responsible for the delivery of preventative and curative health services in the country.

2.1 Mission and Vision:

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 goal and gave 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 standard in 2020.

2.2 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 role and responsibilities.

In addition, a further core value of 'Partnerships in Health' was also 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

2.3 Strategic Key Result Areas (KRA) and Goals for 2013/14 to 2015/16

Six Key Result Areas for the Ministry of Health were identified through the consultation process for the period 2013/14 – 2015/16 along with our gap analysis and diagnosis which helps us to identify where our outputs fall short and why. The 6 KRAs are:

- KRA 1:** To increase our Capacity to Respond efficiently through quality preventive health services in our Collective Battle against N.C.D and C.D. (emerging diseases).
- KRA 2:** Improve the efficiency and effectiveness of curative health service delivery.
- KRA 3:** Provision of Services in the Outer Island Districts & Community Health Centres.
- KRA 4:** Improve HR and Human system that can serve quality health care services.

KRA 5: Improve Customer Services.

KRA 6: Improve Infrastructure and information & Research.

These six KRAs come from different areas and help to focus the Results Map where we wish to direct most attention. KRA 1-3 are at the output level, while KRA 4 and 6 focus on improving our human capacities, and our systems and infrastructure so that we can better deliver our outputs. KRA 5 links to our Key Performance Indicators which measure the overall quality of our services delivery to our Customers.

For each of the KRAs a strategic goal was identified. These are provided in the table below.

Ministry of Health KRAs and Strategic Goals

KRA 1: To increase our Capacity to Respond <u>efficiently</u> through quality preventive health services in our Collective Battle against N.C.D and C.D. (emerging diseases).
Goal: To reduce morbidity by 2% and premature mortality by 10% in N.C.D. and maintain or reverse Communicable Disease from current rate.
KRA 2: Improve the efficiency and effectiveness of curative health service delivery
Goal: We will deliver the range and quality of services to meet the basic health requirements
KRA 3: Provision of Services in the Outer Island Districts & Community Health Centres
Goal: We will provide appropriate services to all the Outer Island Districts and community health centres through effective resourcing. Specialized services will be provided through regular programmed visits.
KRA 4: I Improve HR and health System that can serve quality health care services
Goal: We will build staff commitment and development by demonstrating to staff that they are valued.
KRA 5: Improve Customer Service
Goal: We will deliver our services in a professional and friendly manner
KRA 6: Improve infrastructure and information & Research
Goal: We will continue to improve the standard of existing facilities and ICT, and construct new facilities and introduce new Health Information and Research initiatives where needed.

3 HEALTH ADMINISTRATION AND MANAGEMENT

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

- Therapeutics Goods (Amendment) Act 2004
- Pharmacy (Amendment) Act 2004
- Nurses (Amendment) Act 2004
- Medical and Dental Practice (Amendment) Act 2004
- Health Practitioners Review (Amendment) Act 2004
- Mental Health (Amendment) Act 2004
- Tobacco Control (Amendment) Act 2004
- Drugs and Poisons (Amendment) Act 2001
- Public Health Act 2008
- Health Services Act 1991
- Waste Management Act 2005
- Health Promotion Act 2007

In delivering its services to the public, the Ministry is divided into six functional divisions,

- Administration
- Health Planning and Information
- Public Health
- Medical
- Nursing
- Dental

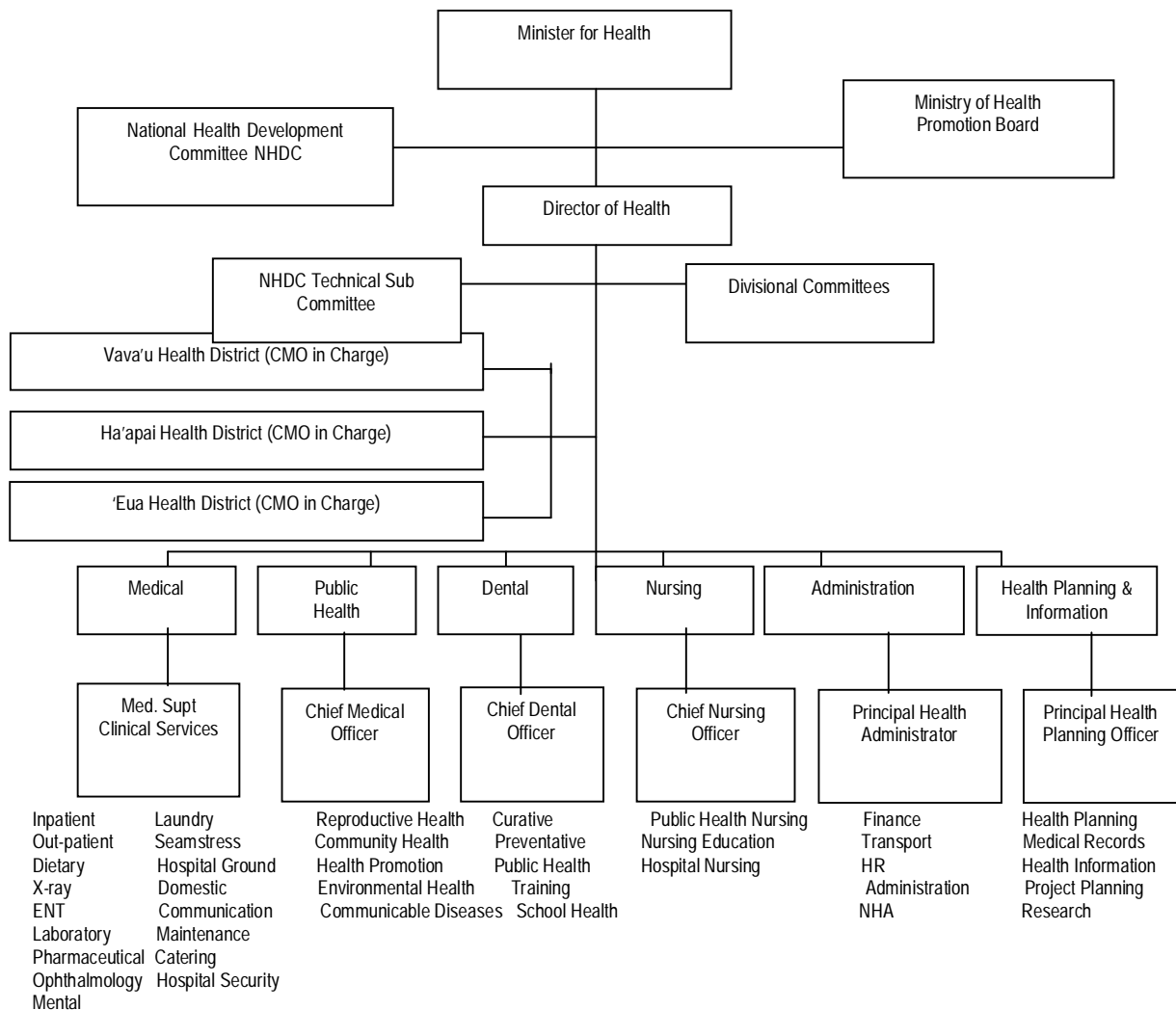
Divisional heads are responsible to the Director of Health for the implementation of each Division's services.

3.1 Ministry of Health Executive

As of 31 July 2011 the following officers were responsible for the administration and management of the Ministry and its respective Divisions.

Minister for Health	Lord Tu'i'afitu Hon. Minister for Health
Head of Department	Dr. Siale 'Akau'ola Director of Health
Administration	Mr. Tu'akoi 'Ahio Principal Health Administrator
Health Planning and Information	Mr. Viliami Ika Principal Health Planning Officer
Public Health	Dr. Malakai 'Ake Chief Medical Officer, Public Health
Medical Superintendent	Dr. Paula Vivili Medical Superintendent, Clinical Services
Nursing	Mrs. Sela Paasi Chief Nursing Officer
Dental	Dr. Sililo Tomiki Chief Dental Officer

3.2 Organization Structure



3.3 District Hospitals

As of 31 July 2011 the following officers were responsible for the management of the outer island health districts.

Prince Wellington Ngu Hospital
Vava'u Health District

Dr. Reynold 'Ofanoa
Chief Medical Officer

Niu'ui Hospital
Ha'apai Health District

Dr. Tevita Vakasiuola
Acting Senior Medical Officer

Niu'eiki Hospital
'Eua Health District

Dr. Lemisio Sa'ale
Senior Medical Officer

3.4 Overview of Health Indicators

The health situation for Tonga in the last five years is reflected in the following table.

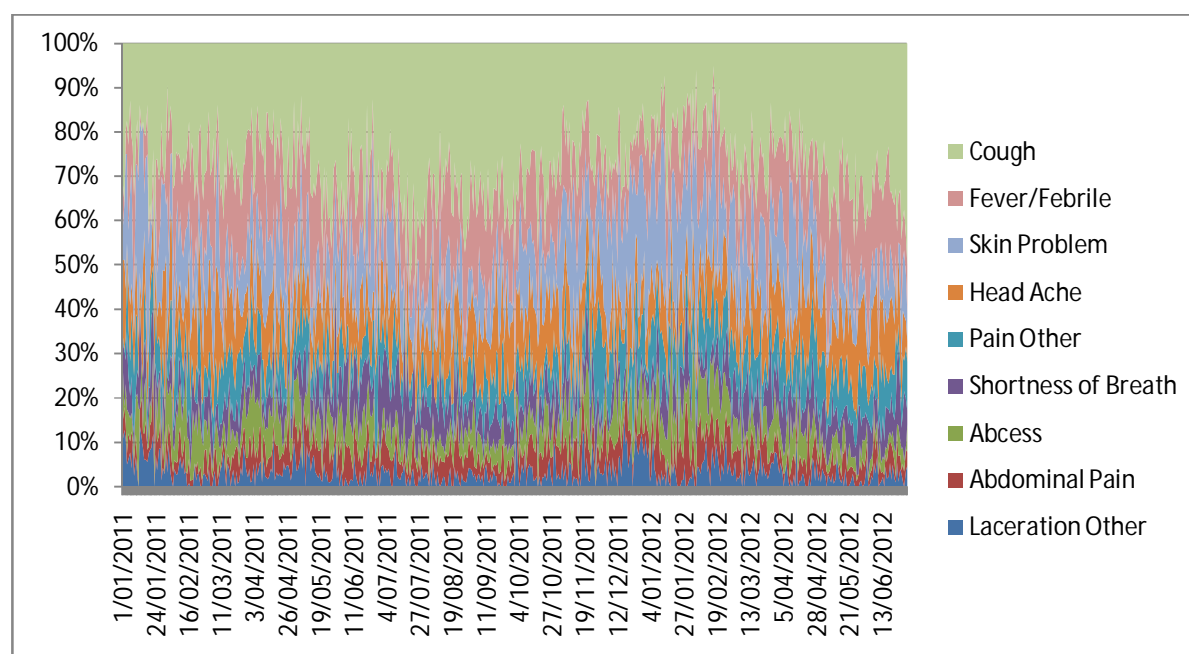
Table 1: Health Indicator(s) for Tonga 2007 – 2011

	INDICATOR	2011	2010	2009	2008	2007
1	Estimated Population ('000)	103.3	103.6	103.1	102.3	103.3
2	Annual Population growth	0.2	0.3	0.3	0.3	0.3
3	Percentage of Population less than 14 years (per 100)	37	38	38	38	38
	Percentage of population 65 years and over (per 100)	6	8	6	6	6
4	Percentage of urban population (per 100)	23	23	23	23	23
5	Rate of natural increase (per 1,000)	20.4	20.7	19.9	21.6	21.3
6	Crude Birth Rate (per 1,000)	26.8	26.0	25.4	26.7	26.5
7	Crude Death Rate (per 1,000)	6.4	5.3	5.5	5.1	5.2
8	Maternal Mortality Rate (per 100,000)	0	37.1	114.4	76.1	36.5
9	Life Expectancy at Birth (combined)					
	Life Expectancy (Male)	65	65	70	70	70
	Life Expectancy (Female)	69	69	72	72	72
10	Infant Mortality Rate (per 1,000)	15.2	21.5	14.5	16.4	11.7
11	Perinatal Mortality Rate (per 1,000 live births)	13.0	12.4	13.5	18.9	13.0
12	Total Health expenditure ('000)	22596	22500	21375	21580	17761
	Per Capita		217	207	210	172
	As a percentage of total recurrent budget		10.1	12.0	10.0	7.5
13	Health workforce					
	Medical Officers at post	55	45	55	59	58
	Health Officers at post	20	21	22	19	17
	Nursing and Midwifery at post	311	tbc	355	346	302
14	Percentage of population with safe water supply	99.9	99	99.9	99	98
15	Percentage of household with adequate sanitary facilities	99.5	99	99.7	98	99.6
16	Immunization coverage	99.8	99.6	99.5	99.5	99.6
17	Percentage of pregnant women immunized with tetanus toxoid 2	98.8	97.9	97.8	99.0	97.6
18	Percentage of population with access to appropriate health care services with regular supply of essential drugs within one hours walk	100	100	100	100	100
19	Percentage of infants attended by trained personnel	100	100	100	100	100
20	Percentage of married couples practicing contraception	33.3	28.4	29.8	27.0	27.7
21	Percentage of pregnant women attending ante natal care	98.6	97.7	98.6	98	98.7
22	Percentage of deliveries conducted by trained personnel	98	99	98.1	97	98
23	Total Fertility Rate	3.7	3.8	3.7	3.7	3.7

3.5 Morbidity and Mortality 2011

Patients that visited the Outpatient Department were commonly presented with cough, fever/febrile, skin problems, head ache, general pain, shortness of breath, abcess, abdominal pain and laceration. These conditions represent 60% (3 out of 5) of all consultations at the Outpatient Department. Cough, fever, skin problems, vomiting and shortness of breath were very common for children aged 1-4 whereas head ache, general & abdominal pain, laceration, and abcess were found to be the common presenting complaints for adult population group. These presenting complaints stand out consistently throughout the year without strong evidences of correlation to the seasonal changes of weather conditions.

Figure 1: Common Presenting Complaints over 2011



Source: Tonga Hospital Information System

Severity of the presenting complaints sometimes represent by how they are categorized in the triage system. About 89% (9 out of 10) of all visits to the Outpatients was not considered urgent, 5% (1 out of 20) was semi urgent, 5% (1 out of 20) are urgent and then less than 1% are shared between emergency and resuscitation category.

Demographic Details of patients attended Outpatient Department, 2011

About 28% (3 out of 10 patients) of total attendances at A&E are children who are less than 5 years old, 29% (3 out of 10 patients) are children between 5-24 years old and then the remaining 43% (2 out of 5 patients) are usually considered as adult population.

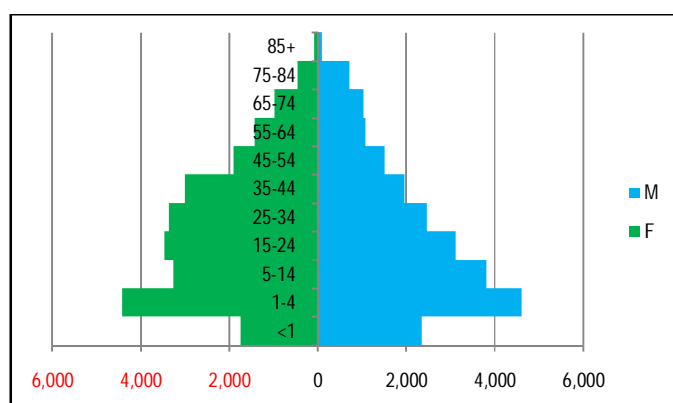
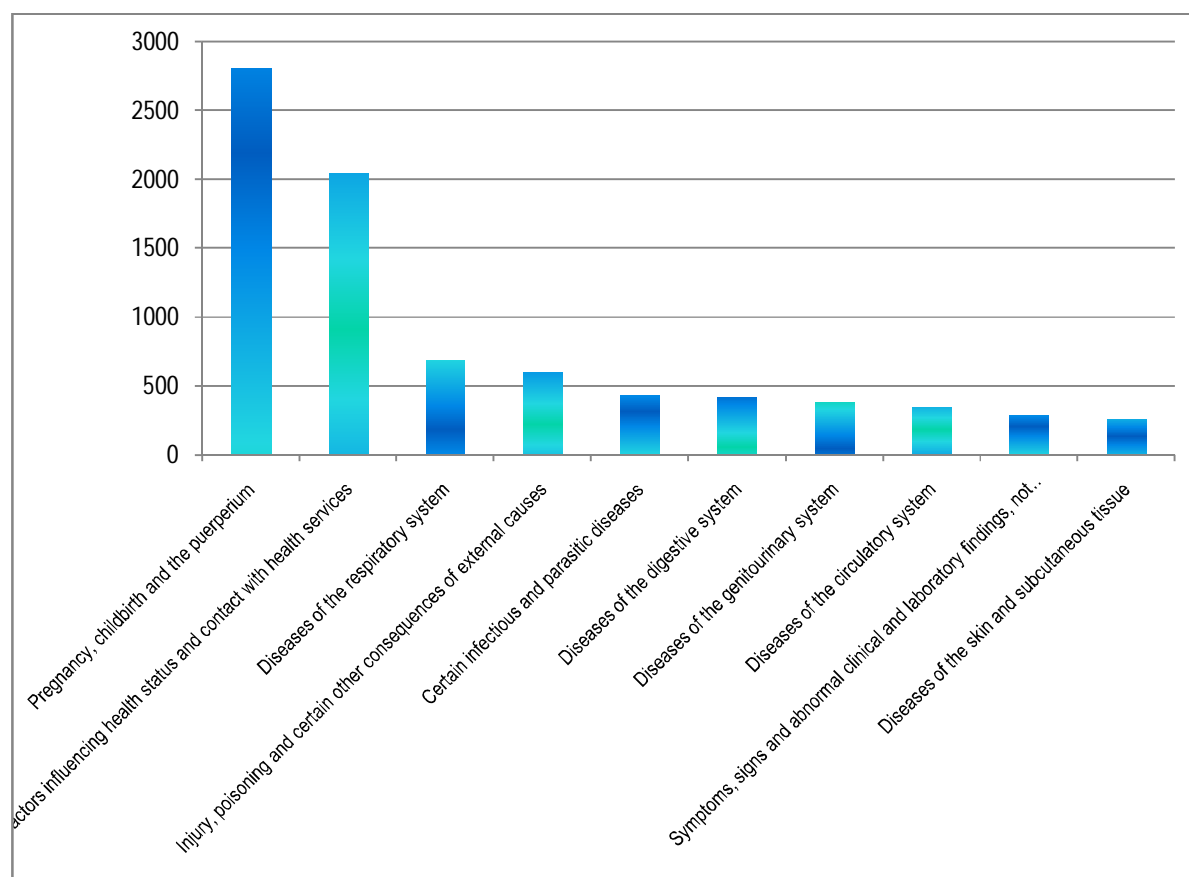


Figure 2: Leading Admission to Hospital, 2011



Source: Tonga Hospital Information System

Admission to Hospital was greatly dominated by mothers and new born babies as shown in the first two categories. As a result, obstetric ward has the highest bed occupancy rate (93%) over the year ranging between 80-100%. However, they are not the leading causes of mortality at the hospital setting.

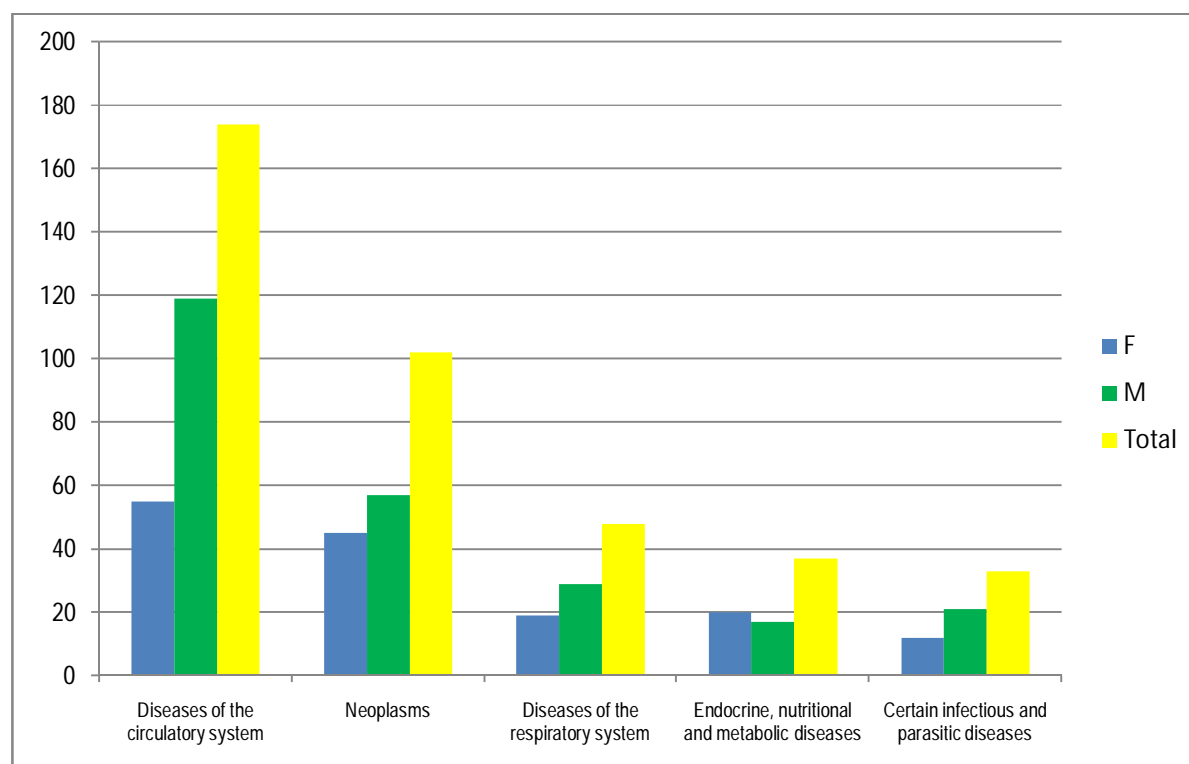
Diseases of respiratory system featured these common diseases such as Influenza with other respiratory manifestations, virus not identified, chronic obstructive pulmonary disease with acute exacerbation, unspecified, asthma, pneumonia and acute bronchiolitis. These diseases mostly affected children that are less than 5 years old and adult population who are aged 45 years and above.

Injury and poisoning emerge as the fourth leading cause of admission. The foremost diagnoses are injury of head, open wound of scalp and concussion. These problems are common for male of three age groups of 1-4, 5-14 and 15-24.

Viral infection and Diarrhoea & gastroenteritis of presumed infectious origin share equally the share dominants diseases within the Certain Infectious and Parasitic Diseases category.

While NCD related causes of deaths are not found as leading causes of admission, they are the common causes of death at hospital setting including Cardiac problems, stroke, neoplasm, diabetes with advanced renal diseases.

Figure 3: Leading Causes of Mortality, 2011



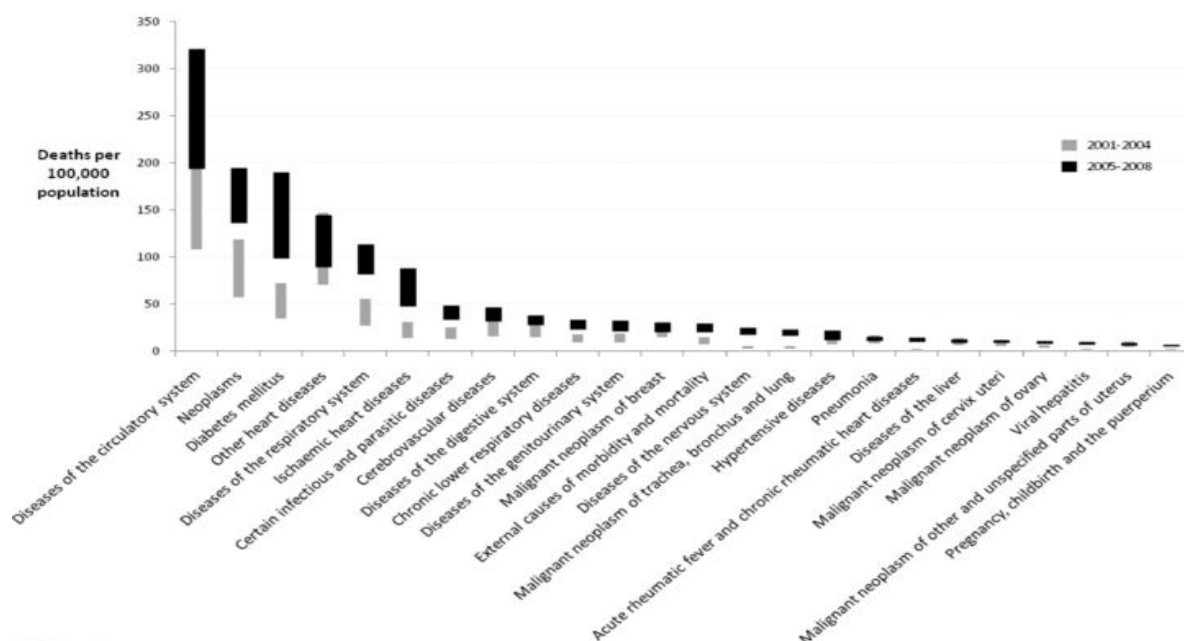
Source: Tonga Hospital Information System

Diseases of the Circulatory System, Neoplasms, Endocrine, Nutritional and metabolic diseases are categorized under non communicable diseases. These diseases were mostly found at the five leading causes of mortality in the last decade and the major source of premature deaths (probability of dying between ages 15 and 59) and numerous types of disability.

In most countries including Tonga, it always requires extra effort to capture the causes of death of deceased occurred at the community and the remote areas. One of the tools that have been introduced in Tonga is Medical Records Review. Medical Records of the deceased are being reviewed and examined what would be the most probable cause of death in comparing to the death certificate. This approach resolved most of the unknown causes of deceased particularly at the simplicity setting of Tonga.

From the outcome of the Medical Records Review in Tonga in 2011, reliable estimates of the causes of death in Tonga reaffirm that non communicable diseases (cardiovascular diseases, neoplasms and diabetes) are leading causes of adult mortality. Cause-specific mortality from cardiovascular increased over time from 194–382 to 423–644 in 2005–2008 for males and 108–227 to 194–321 for females. The mortality from diabetes for 2005 to 2008 is estimated at 94 to 222 deaths per 100,000 population for males and 98 to 190 for females (based on the range of plausible all cause mortality estimates) compared with 2008 estimates from the global burden of disease study of 40 (males) and 53 (females) deaths per 100,000 population.

Figure 4: Causes of Death, 2001-2009



Source: K Carter, S Hufanga, C Rao, S Akauola, AD Lopez, R Rampitige, R Taylor. Causes of death in Tonga, quality of certification and implications for statistics. Population Health Metrics 2012, 10:4 doi: 10.1186/1478-7954-10-4

During the last decade, adult mortality (probability of dying between ages 15 and 59) was estimated at 26.7% for males and 19.8% for females during the period of 2005-2009. This rate is roughly three times higher compared to our neighboring developed countries such as New Zealand and Australia. This is amongst the factors that lower the life expectancy.

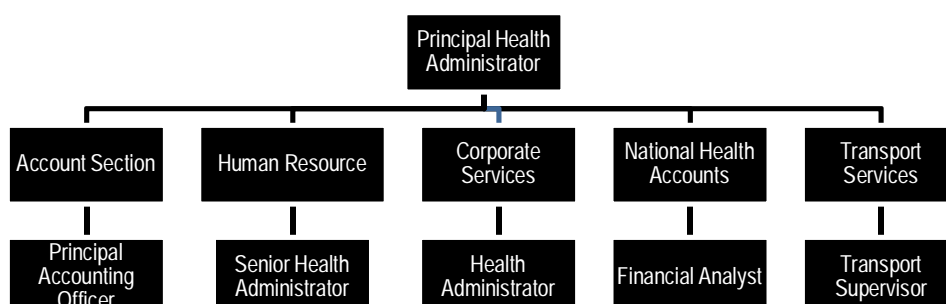
Table 2: Mortality Estimates, 1982-2009

Data set		Period	IMR /1000	IMR /1000 imputed from Child mortality	Child mortality <5 years /1000		Adult mortality %		Life Expectancy (at birth) years	
					M	F	M	F	M	F
Credible Published sources for LE	Civil registry data (adjusted by Brass-method) [ref]	1982-1986	*	-	-	-	-	-	66.3	69.5
		1987-1992	*	-	-	-	-	-	68.1	72
	Ministry of Health data only (unadjusted) [ref]	2005-2008	16.4	-	-	-	18.4	19.1	69.6	72.9
Reconciled data		2001-2004	8.9	11.9	16.7	11.5	21.8	15.5	67.7	71.7
		2005-2009	13.7	18.3	24.5	19.5	26.7	19.8	65.2	69.6
Final estimates		2001-2004	9.1 – 22.3		17.0–32.1	11.8–21.8	22.2–39.4	15.8– 29.8	58.8–67.5	64.2–71.6
		2005-2009	14.7 – 25.2		26.6–34.1	20.7–27.1	28.6–35.8	20.9– 28.1	60.7–64.2	65.3–69.0

Source: S Hufanga, KL Carter, C Rao, AD Lopez, R Taylor. Mortality trends in Tonga: What can we conclude from available data? Population Health Metrics 2012, 10:14 doi:10.1186/1478-7954-10-14

4 LEADERSHIP, POLICY ADVICE AND PROGRAMME ADMINISTRATION

4.1 Administration and Management Services:



Staffing Information:

Sections	Head of Section	Number of supporting staff
Account Section	Ms. Lasini Sinamoni	14
Human Resource	Mrs. Salote Puloka	2
Corporate Service	Mrs. Hatasou Taulanga	14
National Health Accounts	Mrs. Mafi Hufanga	0
Transport Services	Mr. Sifa Kafa	28
Total staff	5	58

Mission Statement	Sections	Function
To provide efficient and effective support services to the Ministry and all health districts with regard to administration, human resources, financial management, national health accounts, and transport services.	Account Section	Account section is responsible for managing the Recurrent Budget, budget development and monitoring.
	Corporate Services	Corporate Service is responsible for establishing standard timeframe for processing administrative procedures; and updating the administrative protocols.
	Human Resource	Human Resource section is responsible for managing all human resources information, provides induction programme for new staff, document and update all human resource Policies and Procedure, and enforce human resources related Rules and Regulations.
	National Health Accounts	National Health Accounts section is responsible for revising and developing the revised user fees, assessing the feasibility of implementing Social Health Insurance and providing financial report in regular basis according to the International National Health Account standards
	Transport Services	Transport section is responsible for providing transportation services including ambulance for the Ministry.

Divisional Milestones:

4.1.1.1 Health Administration:

4.1.1.1.1 Establishment of Vehicle Maintenance Plan

The goals of the vehicle maintenance plan for the Ministry of Health are to provide and support safe, reliable, and high quality service to the ministry's staff while making maximum use of financial resources. This plan documents structured processes of maintaining the quality of vehicles which is one of the expensive asset of the Ministry. It specify the providers who are responsible for performing ongoing maintenance at what time, detailed checklist to be fulfilled before and after each services, instruction for vehicle breakdown and the technical details of each Ministry's vehicles.

Ministry of Health also provides Paramedical training for Emergency life saving for our drivers to improve the turnaround time of the ambulance emergency services from the main hospital.

4.1.1.1.2 Review of Legislation, Subsidiary Legislation and Policies related to tobacco, food and physical activity

Through the Tonga Health Sector Support Project, two legal firms were recruited to carry out review of all law related to tobacco, food and physical activity in Tonga. These activities resulted with series of recommendations that would promote healthy lifestyles as part of fighting against Non Communicable Diseases.

A Legal Officer was also recruited by the Ministry of Health on long term contract to assist the Ministry throughout this major change. Both reviews highlighted the vitality of strong enforcement system and capacity to maximize the benefit of having these planned changes. As of to date, these are health related legislation.

Table 3: Legislation relating to the Ministry of Health

Name of Legislation	Year	Name of Amendment Act	Year	Name of Regulations	Year
Drugs and Poisons Act	1930	Drugs and Poisons(Amendment) Act	2001	N/A	N/A
Health Practitioners Review Act	2001	Health Practitioners(Amendme nt) Act	2004	N/A	N/A
Health Promotion Foundation Act	2007	Miscellaneous Amendments(Privy Council)Act	2010	N/A	N/A
Health Services Act	1991	Miscellaneous Amendments(Privy Council) Act	2010	Medical Services(Detained Patients Regulations	1956
				Medical Services Regulations	1991
				Health Services(Fees and Charges	2000
Medical and Dental Practice Act	2001	Medical and Dental Practice(Amendment)A ct	2004	N/A	N/A
Mental Health Act	2001	Mental Health (Amendment) Act	2004	N/A	N/A
		Miscellaneous Amendments(Privy Council)Act	2010		
Nurses Act	2001	Nurses(Amendment) Act	2004	N/A	N/A
Pharmacy Act	2001	Pharmacy (Amendment) Act	2004	Pharmacy Regulation	2010
Public Health Act	2008 (Repealed the 1992 Public Health Act)	Public health(Amendment) Act	2009	N/A	N/A
Therapeutics Goods	2001	Therapeutics	2004	Therapeutics Goods	2011

Act		Goods(Amendment) Act		Regulations	
Tobacco Control Act	2000	Tobacco Control(Amendment)Act	2004	N/A	N/A
		Tobacco Control (Amendment)Act	2008		

Source: Tonga Health Sector Support Project (THSSP)
Ministry of Health

4.1.1.2 Human Resource:

4.1.1.2.1 Staffing 2011/2012

During the financial year 2011/12, Ministry of Health had 843 staff positions. About half (47%) of the Ministry's staff positions belonged to the nursing workforce followed by clinical staff (29%), Preventative Health Services (11%), Administration (7%), Dental (5%) and Health Planning & Information Division (4%).

There were only 820 positions filled with 23 vacant positions. Vacancies usually vacated by staff that left the Health System on retirement or resignation reasons. The Ministry went through the Government recruitment processes if the technical expertise is available domestically or succession plan and training to fill these vacancies.

Table 4: Staff Details by sub-program, 2011/2012

Sub-Program	Filled Post	Vacant	Total	%
01-Administration	58	5	63	7%
02-Preventative Health Services	94	0	94	11%
03-Curative Health Services	227	15	242	29%
04-Dental Services	40	1	41	5%
05-Nursing Services	394	0	394	47%
06-Health Planning & Information Services	30	2	32	4%
Total Staff	820	23	843	100%

Source: Administration Division

4.1.1.2.2 Workforce Planning

The Ministry reviewed its staffing resources in relation to training and the Corporate Plan of the Ministry of Health. This work was executed by Dr. John Dewdney, University of New South Wales, Australia with the assistance of key staff of the Ministry of Health.

This review aimed at answering four basic key questions as follows:

- How far the services presently provided through the Ministry of Health are appropriate, having regard to the financial and other constraints within which the health service operates.
- Assuming that there would be no significant changes in the scope and scale of services to be provided will increase or other significant change over the coming five years, will the MOH have sufficient staff to provide those services over those years – and if not what might be done to remedy deficiencies?
- Is it anticipated that scope and scale of services to be provided will increase or other significantly changes over the coming five years, and if so what changes in services provision are envisaged?
- If there are envisaged changes, what are the implications of those changes regarding MOH staffing?

Findings estimated at 1,475 and 360 population per doctor and nurses in 2011 but vary significantly between islands group.

Given the duration of formal training for doctors, it was highlighted from this review the importance of paying special attention on succession plan for Specialists positions, Senior Medical Officers through clinical support training programs given limited training opportunities for graduate and postgraduate formal training.

For the period of 2004 until 2010, annual recruitment of student nurses was estimated at 19 to the Ministry's Nursing School with an increase to 30 in 2011. Additionally, about 2 student annual drop out per year since 2004 and 13 qualified nurses left the Ministry's workforce at the same reporting period. This basic information pointed to the fact that there is a need for a detailed plan for the development and management of nurse workforce.

Table 5: Enrolment on Health Formal Training, FNU, 2008-2011

Training types	2008	2009	2010	2011
Generalist medical practitioners	21 (FNU)	18 (FNU)	18 (FNU)	32 (FNU)
Specialist medical practitioners	4 (FNU)	3 (FNU)	2 (FNU)	4 (FNU)
Advanced practice nurses			2 (FNU)	2 (FNU)
Graduate/registered/ professional nurses	36 (QSSN)	33 (QSSN)	29 (QSSN)	1 (FNU) 32 (QSSN)
Midwifery			15 (QSSN)	
Dentists	6 (FNU)	5 (FNU)	4 (FNU)	6 (FNU)
Dental technicians and assistants			6 (MOH)	1 (FNU)
Pharmacists				2 (FNU)
Medical imaging and therapeutic equipment technicians		1 (FNU)	2 (FNU) 4 (MOH)	2 (FNU)
Medical and pathology laboratory technicians		1 (FNU)	2 (FNU)	2 (FNU)
Physiotherapists			1 (FNU)	2 (FNU)
Dietitians and nutritionists		1 (FNU)	1 (FNU)	
Environmental health and hygiene professionals	6 (MOH)	1 (FNU)		
Health professionals not elsewhere classified	4 (FNU)	4 (FNU)	8 (FNU)	9 (FNU)
Health service management				2 (FNU)

Source: Fiji National University, Queen Salote School of Nursing

The review noted two major changes namely empowering community health centre to cater for public medical care instead of the Main Hospital outpatient services and community intervention to fight against Non Communicable Diseases. These emphases introduced to the public for about a decade but yield similar results.

These changes are similar at enlarging present health programmes at the community and remote setting. The review suggested a special attention at taking the right services by right health professional to address most appropriate desired objectives set by the Ministry and the Government for the public at large.

4.1.1.3 Health Care Finance:

4.1.1.3.1 Recurrent Budget 2008/09-2010/2011

Sub-program	Budget 08-09	Budget 09-10	Budget 10-11
01-Administration	4,589,698	5,665,626	4,826,642
02-Preventative Health Services	1,798,044	3,181,109	2,018,685
03-Curative Health Services	7,364,984	7,704,971	6,368,717
04-Dental Services	846,965	887,191	974,619

05-Nursing Services	5,559,535	5,281,354	5,761,213
06-Health Planning & Information Services	1,420,774	373,749	414,124
Total Government Funding	21,580,000	23,094,000	20,364,000

Ministry of Health has six major budget sub-programs. Total budget allocation mostly follows the historical expenditure from previous financial years and the roles play by respective divisions within the health system and the public at large. More than half of the total budget shared between the Clinical Health Services (31-34%) and Nursing Services (23-28%) where they shoulder the greatest share of health care services workload and workforce. It then followed by Administration program (21-24%) who administered allocation for the salary & wages and maintenance of buildings, Preventative Health Services (8-10%), Dental Services (4-5%) and Health Planning & Information Services (1-2%).

4.1.1.3.2 Total Health Expenditure, 2001-2008

Ministry of Health established its National Health Account in 2003. To date, there are 4 NHA report published for the period of 2001-2008. NHA is an international accounting methodology to capture ALL (including public, private, and donor) expenditure flows through the health system of a country in a given year.

The total health expenditure for Tonga increased from TOP\$20 million, 2001/02 to TOP\$40 million 2007/08 to serve a population that is estimated to 100,673, 2001/02 and 102,837, 2007/08. Total health expenditure represents all health related expenditure from the Health System or otherwise including expenditure on buildings by Development partners, expenditure on private sectors and public health services by the public, employers, NGOs and so forth.

Tonga National Health Accounts				
Summary Results				
	2001-2002	2003-2004	2005-2006	2007-2008
Population	100,673	101,800	101,991	102,832
Total Health Expenditure	20,057,274	21,969,454	32,361,709	40,716,326
Total MOH Expenditures	9,926,824	11,976,291	17,466,369	19,212,939
Total Gov't Expenditures	83,564,913	115,860,461	143,333,724	148,917,026
GDP Estimates for Tonga	319,006,000	375,856,000	478,122,000	659,200,000
Percent GDP spent on Health (%)	6.3	5.8	6.8	6.2
MOH as percent Gov't Budget (%)	11.9	10.3	12.2	12.9
THE as percent Gov't Budget (%)	24.0	19.0	22.6	26.7

Source: National Health Account Report 2007/08

Total Health Expenditure is equivalent to 6.3% of GDP, 2001/02 and fluctuate over time to 6.2%, 2007/08. The allocation from the Government Recurrent Budget allocated to Health increases by approximately TOP\$9 million from TOP\$9.9 million, 2001/02 to TOP\$19.2 million, 2007/08. An increase of TOP\$9 million represents 1% increase of the Ministry's Budget (MOH) as percentage of Government Budget.

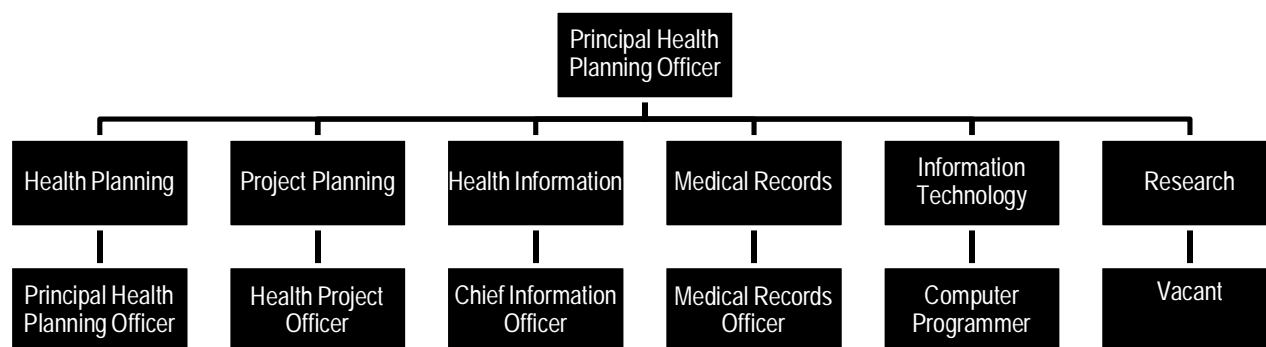
Simultaneously, Total Health Expenditure increases by TOP\$20 million from TOP\$20.0 million, 2001/02 to TOP\$40.7 million representing an increase of 2.7% of Government Budget. This increase predominantly goes toward the infrastructural development at Vaiola, Niu'ui and Ngu Hospital as well as Mu'a and Vaini Super Health Centre.

It is also interesting to note that the proportion of human resources (staffing costs) against operational cost of the health budget since 2001-2002 has always skewed towards staffing. In 2001-2002 there were 64% of the health budget allocated to staffing costs and only 36% for operational cost of delivering health services to the general public. This proportion was reduced in 2003-2004 to 59% and 41% respectively but it increased again in 2005-2006 to 61% and 39% respectively and this was maintained in 2007-2008. Donor supports are mainly for funding of operational costs of delivery of health services.

The strong role of the Ministry's Donor Development Partners in terms of supporting health care services for Tonga consistently reflected at the high proportion of health expenditure that they support. It signify the importance of maintaining healthy active working relationship with these partners to maintain a sustainable and productive partnership that will deliver the most essential health care services of the public.

5 HEALTH PLANNING AND INFORMATION SERVICES:

5.1 Health Planning and Information Division:



Staffing Information:

Sections	Head of Section	Number of supporting staff
Health Planning	Mr. Viliami Ika	1
Project Planning	Mr. Walter Hurrell	0
Health Information	Mr. Sione Hufanga	3
Medical Records	Mrs. Mioko Veilofia	13
Information Technology	Mr. Tu'amelie Paea	3
Research	Vacant	0
Total staff	5	20

Mission Statement	Sections	Function
To provide efficient and effective health planning, health information, project planning and medical records services to its customers and stakeholders within and from outside the Ministry locally, regionally and internationally.	Health Planning	Health Planning is responsible for coordinating, formulating and aligning of sectional and divisional planning in a way it will achieve the Ministry's vision and mission. It also responsible for managing all development funds (donor funding).
	Project Planning	Project Planning is responsible for developing, implementing and monitoring of health projects in conjunction with programme managers and donor agencies.
	Health Information	Health Information section is responsible for overseeing the development and operation of information systems and monitor the utilization and quality of the information collected by the Ministry.
	Information Technology	The IT support section is responsible for supporting the operation of computers within the Ministry and developing policies and procedures for procurement of new IT equipment.
	Medical Records	Medical Records is responsible for providing fast, reliable, and secured record services and ensure health data is accurately abstracted and provided for statistical analysis in a timely manner.

Divisional Milestones:

5.1.1.1 Health Planning Services:

5.1.1.1.1 Redevelopment of Vaiola Hospital Project:

The final phase of the Redevelopment of Vaiola Hospital Project was finally commissioned on the 4th May 2012 through funding from the Government of Japan. This building houses the Outpatient Department, Accident & Emergency, Antenatal Clinic, Central Pharmacy, Medical Record, Special Clinic and Hospital Administration.

Additionally, the renovation of the existing laboratory building to accommodate Diabetic and Ophthalmology Clinics and Physiotherapy Unit. A new Dental Department, new School of Nursing Building, a multi-purpose Hall and extension to the Mortuary. The total estimated cost of this final phase was TOP\$36million. But these are earlier phases of Vaiola Hospital Master Plan that were previously implemented.

- Package A (Psychiatric Ward, Future Laundry and Kitchen) was commissioned in December 2004. Total cost for Package A was US\$3.623 million. The contractor was Kane Constructions, Melbourne, Australia and supervised by International Project Partnership (IPP) of Brisbane, Australia.
- Package B1 (Operating Theatres and Recovery units, CSSD, Laboratory and X-Rays), Obstetrics/Delivery Ward, Surgical Ward and Waste Treatment Plant), funded by the Government of Japan, was completed together with full installation of medical equipment in February 2006, commissioning took place in March 2006 with a total cost for Package B1 of US\$9.743 million. The contractor was Fujita Corporation of Japan and supervised by Kume Sekkei Co. Ltd also of Japan.
- Package B2 (Paediatrics, Medical and Isolation Wards), funded under the IDA Credit, completed in November, 2007 and commissioned in December 2007. Total cost for Package B2 is US\$5.599 million. The contractor was Kitano Constructions Corporation of Japan and supervised by Kume Sekkei Co. Ltd also of Japan.

5.1.1.1.2 Tonga Health Sector Support Project (THSSP)

The Government of Australia supported the Ministry of Health through the Tonga Health Sector Planning and Management Project from 1999 to 2007. This project strengthens the health system in Planning, Management and organizational structure. This investment resulted with key milestones such as the development of the Ministry's Corporate Plan since 1999, Tonga's Health 2000, strengthening the Ministry's Policy and Procedures, system and processes on hospital management, human resource, health finance and health information.

This support is redeployed for the period of 2009-2013 building upon the success of the initial investment where the Health System led and manages Australian Support with appropriate joint oversight. The Partnership for Development identifies agreed priority outcomes in health based on the Ministry of Health Corporate Plan and Balanced Score Card. In particular, the targets of reduced prevalence of non-communicable disease risk factors cover:

- Tobacco Use: 2% decrease in prevalence of smokers by 2015;
- Obesity: 2% decrease in overall prevalence of obesity by 2015;
- Budget for preventive health care reaches 10% of total public health operational budget by 2015;
- Primary health care to all communities in Tonga to follow a common national standard including the utilisation of this service.

The Program has 4 main areas for support:

- Critical Deficiencies: Funding provides to supplement salary to enable the MoH to employ expatriate to address critical staff deficiencies in service delivery
- Flexible Funding: Established to provide immediate access to funding (AUD250000/year) for unplanned small scale and/or urgent work.
- NCD Primary Care: Has five key components to address Non Communicable Diseases and its risk factors.

Strategy One: Legislative and Fiscal Measures;
Strategy Two: Behaviour Change Communication (Health Promotion);
Strategy Three: NCD Primary/Community Care;
Strategy Four: Diabetes Centre and Diabetes Outreach.

Strategy Five: Program Management

- Twinning Program with St John of God: Provides capacity building opportunities for staff member of the Ministry with Saint John of God Hospital, Australia.

In 2011, THSSP completed the

- renovation of Houma, Kolonga, Nukunuku, Kolovai and purchasing of equipment for Vaini and Mu'a Health Centre as well as Health Centres in the outer islands.
- Implementation of KAP Survey as part of STEP Survey.
- Funding of medical and IT equipments under flexible stream of funding.
- Funding of Health Specialist namely Anesthetist, Surgeon and Biomedical Engineer.

5.1.1.2 Information and Research:

5.1.1.2.1 Health Data Dictionary:

The purpose of this document is to explain the different attributes of the data items, how to create and maintain the data items in the HDD, and how to use the database to assist in publishing the HDD and its relationship to health related indicators.

It is essential for correct and proper use and interpretation of data that both users and owners of data have a common understanding of the meaning and representation of the data.

The Tonga HDD is a Metadata Registry which contains information about data items used to capture information about the activities of the Tongan Health Sector. Such metadata are necessary to clearly describe, analyse, record, classify and administer data. Data items are a unit of data for which the definition, identification, representation and permissible values are specified by means of a set of attributes.

The World Health Organization funded an assignment to further harmonize the Tonga Health Data Dictionary. It focused on stock taking all health related indicators with technical specifications of data elements, definitions, users, frequency of report and identified possible sources. Indicator – An indicator quantifies and simplifies phenomena and helps us understand complex realities.

At the completion of this assignment, a total of 148 health related indicators were identified. Ministry of Health uses 83, where 40 for fulfilling the Ministry's Health Annual Report and Corporate Plan, 14 for Tonga Health Sector Support Project, and 29 for Reproductive Health Services. World Health Organization uses 77 health indicators and 31 for Millennium Development Goals. During the processes of completing this work, 34 specific indicators were identified for Non Communicable Diseases. Identified indicators uses as dashboard meters to monitor the progresses of health care delivery and outcomes at defined period of time.

5.1.1.3 Health Research

Health Information Services engaged in three researches during 2009-2011 namely Pacific Child Health Indicator Project (Investigators, Paediatric Staff of Tonga and Samoa, School of Population Health, Auckland University), Capture Re-captured Study (Investigators, Ministry of Health, School of Population Health, University of Queensland) and Medical Records Review (Investigators, Ministry of Health, School of Population Health, University of Queensland).

The aim of the Pacific Child Health Indicators project was to develop a set of functional indicators that reflect key health issues. The current indicators were mostly designed on child mortality reduction but it will hide growing disparities and emerging health problems within child population groups in the Pacific including Tonga. Indicator functionality and local relevance is pivotal to responsive decision making.

Table 6: Summary of recommended Child Health Indicators:

Name of Indicator	Definitions
Acute Lower Respiratory tract Infection (Pneumonia and Bronchiolitis)	1.Total hospital admissions for pneumonia and bronchiolitis in children aged 0-4 and 5-14
Childhood Injuries	1. Total hospital admissions for injuries in children aged 0-4 years and 5-14 years for injury type – head, burns, other.

	2. Hospital child injury admissions by external cause/mechanism of injury
Gastroenteritis	1. Total Number of admissions to hospital with diarrhoeal disease or gastroenteritis and typhoid (Samoa) for children age 0-4 and 5-14 years. 2. Total number of deaths due to gastroenteritis for children age 0-4 and 5-14 Years
Serious Malnutrition	1. Total hospital admissions of children aged 0-4 with marasmus, kwashiorkor, marasmus/kwashiorkor, malnutrition (WHO definition for diagnosis) 2. Exclusive breastfeeding rates at 6 months
Neonatal Morbidity (Low Birth Weight, Congenital Abnormalities)	1. Total number of children born with Congenital Abnormalities and individual congenital conditions 2. Total number of children born with low birth weight Low birth weight, 1500gms to <2500gms. Very low birth weight <1000gms High birth weight >4500gms 3. Total number of Pre-term babies o 34-36 weeks o 30-34 weeks o < 30 weeks
Neonatal and Perinatal Mortality	1. Total number of Neonatal deaths as percentage of overall live births and cause of death 2. Total number of perinatal deaths as percentage of overall live births and cause of deaths
Immunisation	1. Total percentage of children fully immunised by 18-24 months (DTP3 & M2) 2. Percentage of children who have received measles vaccination at 12 months,
Rheumatic Fever and Rheumatic Heart Disease	1. Notifications Acute Rheumatic fever & RHD to register/year 2. Hospital admissions ARF/RHD 3. Referrals for RHD surgery/year 4. Incidence RHD and ARF (new notifications in a year/100,000 population) 5. % of Patients on register that are up to date with their 28 day penicillin Injections
Child Cancer	1. Total hospital admissions of children aged 0-4 years and 5-14 years with cancer 2. Individual cancer admission rate 3. Individual admission with type of cancer (number/year)

5.1.1.4 Information and Communication Technology:

5.1.1.4.1 E-Library

E-Library Project was initially established in 2008 as a result of a request from the Ministry of Health in Tonga under the Project Partnership Initiatives funded by AusAID through Pacific Senior Health Official Network. The primary objective of this request is to improve access to latest discoveries in health research to assist health care services delivery, research and training in the remote island setting.

This project guided the first development of the Ministry's intranet which contains links to various health related research and professional sites and the Ministry's Annual Report (1956-2010), health related regulation, job description, statistical routine report and internal notice as well as announcement.

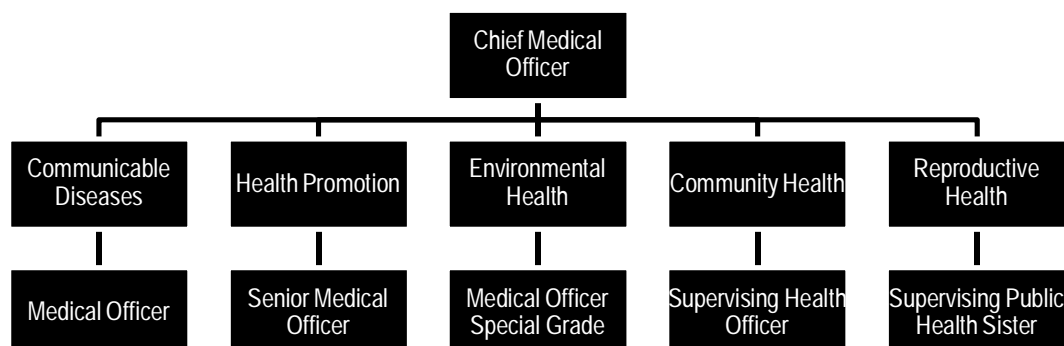
Under the same partnership, a local training was delivered for relevant staff in 2010 by Technical Staff from the Department of Health and Aging (Canberra) and hands on practical in expanding the functionality of the Ministry's website to cater for many electronic data sharing which allow electronic management of staff leave, calendar year events, electronic distribution and storage of meeting materials.

In 2011 and the first half of 2012, an Australian Volunteer was also recruited with strong focus on

- Analyse the current information in the Free Access Literature area and identify changes and opportunities
- Create a new and improved e-Library on the Ministry's Intranet, which is only available to Ministry staff.
- Train staff in the use of the e-Library and increase Information Literacy.
- Provide documentation and guidelines for the use of the e-Library.

6 PREVENTATIVE HEALTH SERVICES

6.1 Public Health



Staffing Information:

Sections	Head of Section	Number of supporting staff
Communicable Diseases	Dr. Louise Fonua	2
Health Promotion	Dr. 'Ofa Tukia	12
Environmental Health	Dr. Raynold 'Ofanoa	20
Community Health	Dr. Cathy Tekiteki	14
Reproductive Health	Sr. 'Atalua Tei	47
Total staff	5	95

Mission Statement	Sections	Function
To help all people in Tonga to achieve the highest attainable level of health defined in WHO's constitution as "a state of complete physical, mental and social well-being and not merely the absence of infirmity"; by significantly reducing morbidity and mortality due to infectious diseases and improving the quality of life.	Communicable Diseases	Communicable Diseases Section is responsible for developing guidelines for prevention and control of outbreak prone diseases; develop treatment protocols; manage the suspected/confirmed STI patients; implement and monitor DOTS strategy.
	Health Promotion	Health Promotion and Non-Communicable Diseases section is responsible for identifying and providing intervention programmes for at risk persons/group in public particularly on Non Communicable Disease.
	Environmental Health	Environmental Health Section is responsible for providing environmental health services for the community, upgrade and maintain the village water supply system, oversee and control of hospital waste management.
	Community Health	Community Health section is responsible for providing health services in the community, educates and promotes healthy life style in the community and encourages community participation in community health development.
	Reproductive Health	Reproductive Health section is responsible for providing reproductive health care services to women of child bearing age, family planning, immunization services, antenatal and post natal care.

Divisional Milestones:

6.1.1.1 Communicable Diseases:

6.1.1.1.1 HIV

There was one new case of HIV detected this year and this brings to two the number of PLWHA in Tonga. The on-going care of these patients are conducted by the HIV treatment core team with the counselling aspect of it under the National HIV counsellor. One person was eligible for ART and was therefore treated with relatively no side effects experienced to date. CD4 and viral load monitoring are not available locally and are sent overseas for analysis.

6.1.1.1.2 Other STIs

Chlamydia and gonorrhea remains the most common STIs seen in the Communicable Disease unit as well as the rest of Tonga. Chlamydia is detected in the laboratory using the BD-probe tec machine and gonorrhea via microscopy and culture. It is unfortunate that from August 2012, the centrifuge in the main laboratory broke down and brought to a halt any further testing for Chlamydia in the country. This adversely affected the continuity of service provisions for STI clients and ante natal women throughout Tonga. The Communicable Disease unit continued with syndromic management for STI clients but routine antenatal screening for pregnant mothers both for Tongatapu and outer island hospitals ceased altogether.

The following table shows the number and age groups of clients seen at the communicable disease unit and the reason for consultation. Please take note that these figures only reflect the cases seen and treated at the Communicable Disease Unit and not the ones seen at other departments, wards and private clinics.

Table 7: STIs seen at the Communicable Diseases Unit in 2012 by age and gender.

Age Groups	Gonorrhoea		Chlamydia		Both Chlamydia and Gonorrhoea		Others Including Those Treated Syndromically		TOTAL
	M	F	M	F	M	F	M	F	
0-14	0	0	0	0	0	0	0	0	0
15-24	42	2	35	159	12	4	51	7	312
25-34	10	0	19	96	4	2	47	14	192
35-44	6	0	2	9	0	0	9	1	27
45-54	2	1	0	0	0	0	3	1	7
55-64	0	0	0	0	0	0	0	0	0
65+	0	0	0	0	0	0	0	0	0
TOTAL	60	3	56	264	16	6	110	23	538

Source: Communicable Disease Register

From the above table, 94% of cases were seen at the 15-34 age groups thus highlighting the fact that our young people are more vulnerable to contracting STIs. 44% of all cases were males and 56% were females. This report is mindful of the fact that no Chlamydia testing was conducted from August 2012 up to the end of the year and the actual numbers reported could have been higher than the stated figures. Every effort is taken to ensure that contact tracing is carried out and partners treated accordingly. What is not shown on the table above is that 23 people came in for voluntary confidential counselling and testing. Provider initiated testing is also offered when it is deemed necessary.

6.1.1.1.3 Tuberculosis

Table 8: Tuberculosis notification for 2012

Age Group	Gender		Disease Classification			Total
	Male	Female	Pulmonary Smear +ve	Extra-pulmonary Smear -ve		
0-14	0	0	0	0	0	0
15-24	0	2	2	0	0	2
25-34	0	0	0	0	0	0
35-44	1	0	0	1	0	1
45-54	2	2	3	0	1	4
55-64	0	1	1	0	0	1
65+	2	1	3	0	0	3
Total	5	6	9	1	1	11

Source: Tuberculosis Register

This unit saw and treated 11 cases of tuberculosis (all forms) in the year. Nine out of this eleven cases were sputum positive TB and there was one each for extra-pulmonary TB and sputum smear negative pulmonary TB. 55% of all cases were female and the remaining 45 % male. Throughout the year, there was one transfer in case from USA and one case from Vava'u and the remainder of cases was from Tongatapu.

There were no fatalities due to TB and there were no treatment interrupted or default cases. In addition, there were also no MDR-TB suspects or cases. Contact tracing was initiated for all sputum smear positive Pulmonary TB cases and a total of 57 contacts (mostly household) were investigated.

6.1.1.1.4 Meningococcal meningitis

There was one fatal case of meningococcal meningitis reported to this unit which was a 2 month old baby from Talasiu. Contact tracing was initiated and 44 contacts from three different villages were offered prophylactic treatment.

6.1.1.1.5 Typhoid fever

There were 6 confirmed typhoid fever cases for the year with one healthy carrier identified. As shown below, the majority of cases was from known endemic areas or had contact with these areas.

Table 9: Typhoid Fever and Healthy Carrier Cases by age, gender and village for 2012

Case number	Gender	Age	Village
1	Male	7	Longolongo
2	Male	7	Tatakamotonga
3	Male	18	Tatakamotonga
4	Male	18	Tatakamotonga
5	Male	28	Lapaha
6	Male	32	Tofoa
7 (Carrier)	Female	34	Tofoa

Source: Communicable Disease Register

6.1.1.1.6 Leprosy

There are currently three cases of multi-bacillary leprosy under the care of this unit.

6.1.1.1.7 Other Services

Table 10: Health Certificates for Shop Keepers, Food Handlers, Visa purposes, Employment and Missionary Candidates for 2012

Quarter	Shopkeepers	Food handlers	Visa	Employment	Missionary duties	Total
1	601	441	161	106	35	1344
2	709	534	84	56	38	1421
3	831	478	137	70	50	1566
4	738	485	64	57	78	1422
Total	2879	1938	446	289	201	5753

Source: Communicable Disease Register

A total of 5753 health certificates were issued by this unit for the year 2012. The majority of health certificates were for shop-keepers and food handlers followed by visa, employment and missionary duties respectively. These numbers are on the rise as compared to previous years and this reflects that an increasing number of people are accessing the services of this unit.

6.1.1.2 Non Communicable Diseases and Health Promotion

The introduction of the specific health promotion programme at specific setting such as Churches, Schools and Workplaces continues to yield favourable milestones such as development of 2 years work plan 2012/2013 for Health Promoting Churches, establishment of Haofakimo'ui Programme at Vava'u, establishment of Health Promoting School Working Committees, ongoing health screening at 8 workplaces in Tongatapu and maintaining Fiefia inter-department sport during the reporting period. .

Stock-take of health promotion activities completed, giving better direction on how to strengthen this area in a more systematic manner. This exercise includes;

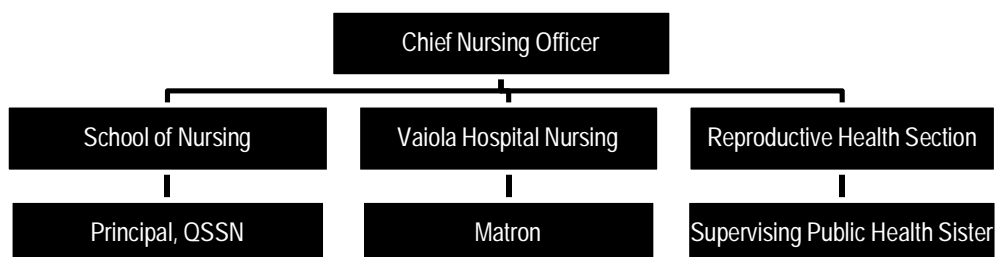
- Map the MoH/other key stakeholder NCD health promotion activities (over the past ten years).
- Assess the appropriateness and effectiveness of these activities, including identifying the success factors and outcomes of these activities where data is available.
- Identify any gaps and blockages in successfully implementing health promotion activities.
- Assess how gender equity strategies have been incorporated into health promotion activities, and how effective this has been.
- Make recommendations on how the NCD health promotion activities can be improved in Tonga based on evidence-based best practice methods, internationally and in the Tonga context.
- The effectiveness of the organisational arrangements in place to oversee health promotion activities in the MoH/ the key NCD stakeholders and make recommendations for improvements.
- The structure of the NCD Section of the Health Promotion Unit (HPU) within MoH to successfully implement health promotion activities.
- The core function of the NCD Section of the Health Promotion Unit
- The resources (human and financial) allocated to health promotion.
- The roles and responsibilities of the MoH health promotion unit, Tonga Health, and activities implemented under the THSSP program.
- Ministry of Health linkages with other relevant government and non-government organisations with an interest in this area.
- The role of NCD sub-committees in health promotion activities.
- How health promotion activities are incorporated into the Ministry's M&E Framework.
- How useful is the information that is currently collected and used for decision making to inform future health promotion activities.
- The extent to which information has been collected and analysed according to gender.
- The NCD Section of the HPU's capacity to monitor and report on health promotion activities.
- Recommendations on how M&E for health promotion activities could be improved.

Hon PM addressed UN General Assembly at New York on NCD highlighting our strong political support and the need to act now. Hon Minister of Health addressed the 65th World Health Assembly highlighting the health needs of Pacific island countries.

Health Promotion Unit in conjunction with THSSP staff, WHO successfully implemented the STEP survey which is a global tool that provides detailed information about the NCD risk factors in the people of the Tonga. The report anticipated to be completed by the end of 2013.

7 NURSING SERVICES:

7.1 Nursing Services



Staffing Information:

Sections	Head of Section	Number of supporting staff
School of Nursing	Mrs. Tilema Cama	6
Vaiola Hospital Nursing	Sr. 'Ofa Takulua	182
Reproductive Health Nurse	Mrs. 'Atalua Afu Tei	48
Total staff	3	236

Mission Statement	Sections	Function
To provide quality nursing service for the entire country.	School of Nursing	School of Nursing is responsible for training of student and staff nurse for the nursing services in Tonga.
	Reproductive Health Section	Reproductive Health section is responsible for providing effective and quality services to mothers, infants, children and adolescents and others through reproductive health strategic approaches throughout the country.
	Hospital Nursing	Vaiola Hospital Nursing section is responsible for providing nursing services at hospital setting including clinics and other allied health services in Vaiola Hospital.

Divisional Milestones:

7.1.1.1 Nursing School:

The school was responsible for a total of 105 students of which 90 under the diploma training programme and 15 on Post basic training programme. All students also enrolled with Tonga National Qualification Accreditation Board (TNQAB). There were 43 students who successfully completed their respective programme and graduated in 2011. The post basic trainees successfully completed their training without drop out through the training since the commencement on 4th October 2010. There were 3 students who exit on termination and resignation reasons. On the 21 February 2011, 32 new students (1 private student) were recruited under diploma training programme.

Table 11: Student Recruitment and Graduate Details

Class (Year)	Students 1/1/2011	Intake	Repeat	Private Stud.	Student 31/12/2011	Graduated	Resigned	Terminated	Defer
2008	28			1		28			
2009	29		1	2	32				
2010	26		1	3	30				

2011		31		1	28		1	2*	
2010**					15	15			
Total	83	31	2	7	105	43	1	2	0

* 1 Private Student

**Post basic Midwifery Class

There were 10 teachers who permanently support the school programme while two staff on study leave toward a master and Doctor of Philosophy qualification. The school also has a Librarian, house keeper and administrative support staff (Computer Operator Grade III). The Nursing training curriculum was redeveloped in conjunction with the School of Health Science (Mary Macmanus), Auckland University of Technology (AUT), New Zealand on the 5-9 September 2011. The result of this works will pilot prior to the full implementation. Ongoing staff development programme in relation to teaching strategies, student assessments, clinical placement, clinical learning tools, student supervision were being successfully maintained throughout the year.

7.1.1.1.1 Need-Based In-Service Training for Community Health Nurses (NB-IST)

This project was introduced to mitigate the negative effects of staff shortages due to lack of adequate recruitment, imbalance in the distribution of health personnel and migration of health personnel to neighboring countries. In the framework of maximizing on available resources, the Ministry was encouraged to support this programme to improve working conditions as well as universal access to health services. Similar project demonstrate strong positive impact in Fiji between 2004-2009 in partnership with Japan International Cooperation Agency (JICA). Japanese Government establishes partnership with the Government of Tonga and introduces this project in 2011.

The project has five major outputs with details activities:

Output 1: The various guidelines for smooth implementation of the NB-IST and being used.

- Conduct of baseline and endline surveys for the NB-IST
- Review the Job Descriptions for public health/clinical nurses, and the draft Competency Standard (CS)
- Finalise and propose the CS for public health and clinical nurses
- Develop operation guidelines, manuals and reporting forms for the NB-IST
- Train public health and clinical nurses on the CS, operation guidelines, manual and reporting forms

Output 2: Planning and funding for the NB-IST are better coordinated:

- Determine at what level of the MOH headquarters IST Coordinator(s) is/are assigned
- Identify potential candidates for and appoint the most adequate one(s) as IST coordinator (s)
- Increase awareness on importance of the NB-ISTs in the MOH system
- Review and propose the Training Development Committee's (TDC) additional roles to coordinate the NB-ISTs with other types of ISTs.
- Collaborate with TDC for the sustainability of the NB-ISTs.

Output 3: An adequate number of nursing supervisors with skills of Supervision and Coaching (S&C) and NB-IST are readily available

- Identify potential candidates and appoint most adequate ones as nursing supervisors
- Design training program on S&C (eg. Curricula, teaching and learning materials, and certification)
- Train nursing supervisors on S&C skills
- Assist nursing supervisors to conduct S&C for Community Health Nurses in the pilot areas

Output 4: A nationally standardized Monitoring and Evaluation (M&E) system for the NB-IST is operated in the pilot area for the evidence-based career development support and succession planning:

- Design and prepare the NB-IST M&E guidelines and tools

- Train nursing supervisors and the central MOH officials on the M&E.
- Assess the S&C performance in islands by regular visits and Annual Review and Planning Workshop for public health nurses

Output 5: The progress and results of the Project are shared among and beyond Tonga, Fiji and Vanuatu:

- Conduct tele-and/or video-conferences among project teams of the three countries
- Participate in the ongoing regional training program
- Present the progress and results of the Project at International Conferences

The baseline data for the project were collected from Tongatapu, Vava'u and Ha'apai in May-July 2011. About 87.5% of the entire Nursing Supervisors and 81.6% of all registered nurses has been trained on Competency Standards. A group of Nursing Supervisors tasked with the development of IST Manual and a separate group was trained to report the outcomes of the Competency assessment of nurses. These milestones anticipated to build a stronger pathway through professional development toward improved quality nursing services nationwide.

7.1.1.2 Reproductive Health Services:

7.1.1.2.1 Immunization Services:

Reproductive Health Services serve a child bearing age population estimated to 24,000 in 2011 with annual live births ranges between 2,500-2,800 a year in the last decade. These services are delivered at 4 main hospitals, 15 Health Centres, 17 Reproductive Health Clinics nationwide. Despite the challenges of serving the Tongan population in about 36 inhabitant islands, the immunization coverage of mothers and children maintained at very high percentage of more than 95%.

Immunization is found as a cost effective public health measures that prevent the public from diseases such as measles, hepatitis B, polio and so forth.

Table 12: Immunization Details, 2006-2011

Immunization Details	2006	2007	2008	2009	2010	2011
Immunization Coverage	99.8	99.6	99.4	99.5	99.5	99.8
Tetanus Toxoid	98.1	97.9	99.2	98.4	98.4	98.8
EPI for primary schools	100	99.9	99.6	99.4	100	99.7
EPI for school leavers	99.6	99.3	96.4	96.3	98.5	99.9

Source: Reproductive Health Services

Tonga recognized as the fifth country and only developing country; in the Western Pacific Region; to achieve hepatitis B control based achieving WHO targets for control. This is testimony to a successful hepatitis B vaccination program.

7.1.1.2.2 Reproduction and Contraceptive:

While the number of live births are steadily varies between 25 and 26 per 1000 population, at least 98% attended the antenatal and postnatal services. On average, the number of single mothers continued to increase as well as those who also have reported with sexual transmitted infections.

Acceptance of contraceptive challenge the RHS care delivery since it still allow high birth rate, population growth even though its negative effect are mitigated by high out migration from Tonga.

Table 13: Reproduction Indicators, 2006-2011

Services Details	2006	2007	2008	2009	2010	2011
Crude Birth Rate (per 1000 pop)	26.5	26.5	26.7	25.4	26	
Antenatal coverage (%)	98.0	98.7	98.0	98.4	97.9	98.6
Postnatal coverage (%)	99.9	99.7	99.7	99.8	100	100
Single mother	269	281	318	274	337	324
Reproductive Health Cancer	20	5	27	22	20	17
STI	33	14	23	47	14	72
Contraceptive Prevalence Rate (%)	23.9	27.2	27.0	29.8	31.5	33.3

Source: Reproductive Health Services

Due to the sensitivity of early childhood indicators when it deals with small population group, observing of statistical trends over time found to be more meaningful when we use absolute numbers. These statistics are small in numbers when it is compared to our neighbouring Pacific Island Countries and even when it converts to relevant indicators. Even though that they reflect the commitment of achieve universal health coverage to reproductive health services, but it is important to maintain our commitment to maintain the same standard or even improve when opportunity arise.

Table 14: Early Childhood mortality, 2006-2011

Type of death/Years	2006	2007	2008	2009	2010	2011
No. of Abortions	49	45	50	57	57	58
No. of Stillbirths	22	24	33	20	29	23
No. of Perinatal deaths	35	34	41	34	41	35
No. of Neonatal deaths, 0-4 wks	13	14	27	27	18	16
No. of Infant deaths, 0-12 mths	30	37	53	43	44	30
Deaths in children >5 yrs	42	49	67	60	54	34
No. of maternal	3	1	2	3	1	0

Source: Reproductive Health Services

8 CURATIVE HEALTH SERVICES

8.1 Clinical Services

Staffing Information:

Sections	Head of Section
Paediatric Ward	Siaosi 'Aho
Special Care Nursery (SCN)	Siaosi 'Aho
Surgical Ward	Viliami Tangi
Medical Ward	Sione Latu
Obstetrics and Gynecology Ward	Dr. Semisi Latu
Mental Health	Mapa
Anaesthesia and ICU	Dr. Bernard
National Centre for Diabetes and Cardiovascular Diseases	Dr. Veisia
Emergency and Outpatients	Dr. Moana

Mission Statement	Sections	Function
To provide the best possible care in internal medicine, to prioritize areas that need change and to use the available resources in the most appropriate and effective way.	Paediatric Ward	Paediatric Ward is responsible for providing health care services for children aged 0 to 14 years including special care for premature babies.
	Surgical Ward	Surgical Ward is responsible for providing health services for all patients presenting with surgical problems.
	Medical Ward	Medical Ward is responsible for providing internal medicine and primary care for the nation including consultation medicine (inter-departmental, inter-island and overseas referrals).
	Obstetrics and Gynecology Ward	Obstetrics and Gynecology Ward is responsible for providing obstetric services as well as health services to all patients admitted with gynecological problems.
	Mental Health	Mental Health section is responsible for providing health services and psychiatric care to patients who have suffered institutionalization and to continue the process of deinstitutionalization for all psychiatric cases.
	Anaesthesia and ICU	Anaesthesia and ICU is responsible for providing anaesthetic services including managing of Intensive Care Unit.
	National Centre for Diabetes and Cardiovascular Diseases	National Centre for Diabetes and Cardiovascular diseases is responsible for delivering health services and outreach programme for all inpatients and outpatients patients suffering from diabetes and/or cardiovascular diseases.
	Emergency and Outpatients	Emergency and Outpatients is responsible for delivering health services for patients seeking emergency and outpatient care.

Divisional Milestones:

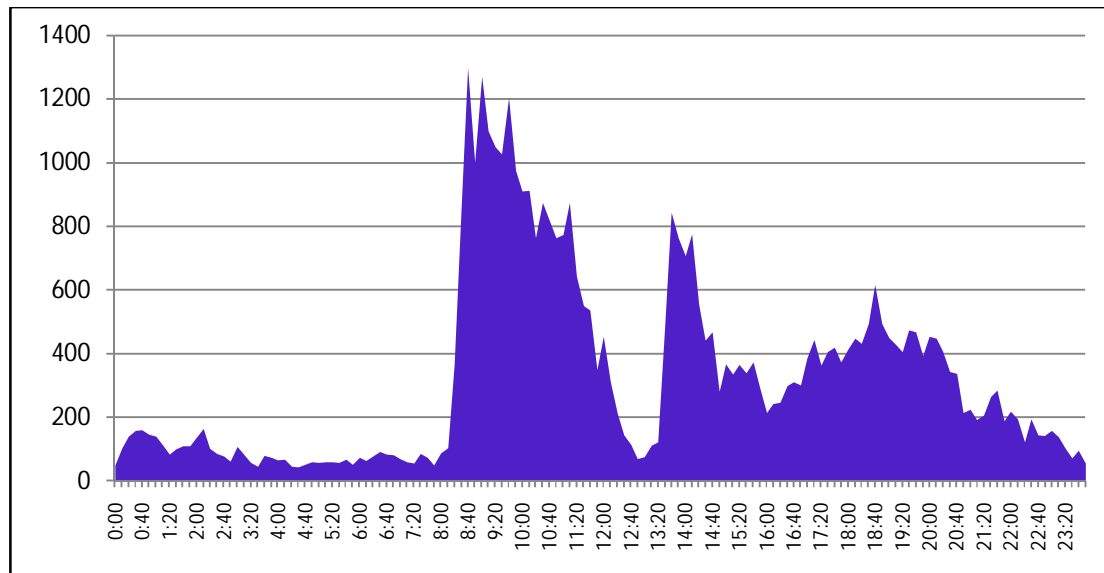
8.1.1.1 Emergencies and Outpatient Services:

8.1.1.1.1 Health Care Service Delivery:

The standard 3-shift, 24 hours coverage service continued as usual. The AM shifts (0830-1630 hrs) provides the widest range of services, managing all triage categories, due to the availability of support services during regular government working

hours. The general public has been repeatedly addressed on this issue, including outpatient clinic medication refills and referrals.

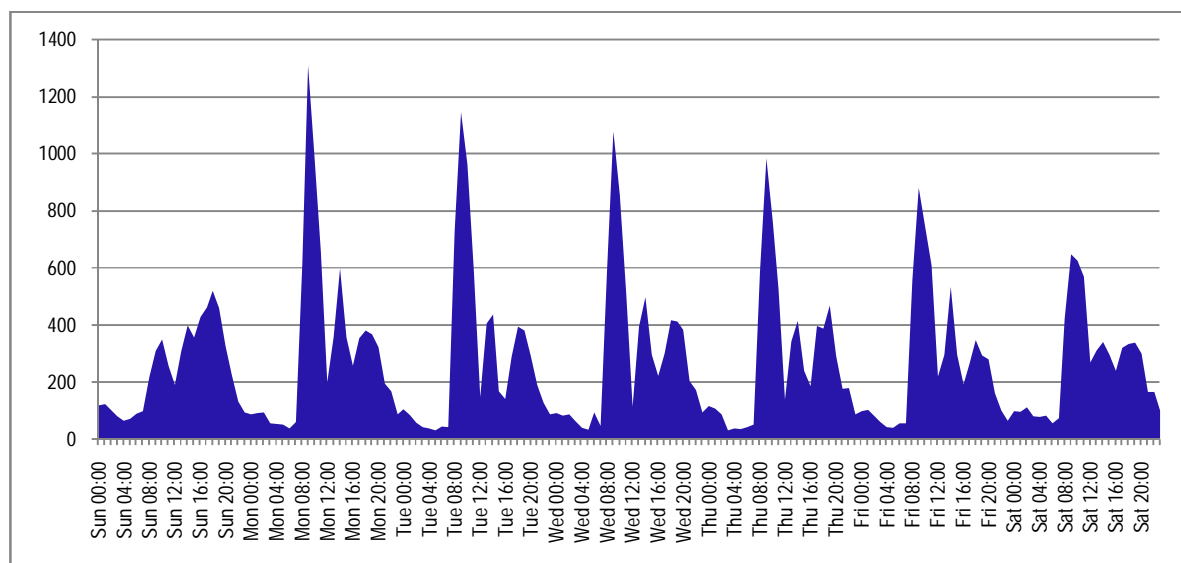
Figure 5: Distribution of outpatients visit during the time of the day, 2011



Source: Tonga Hospital Information System

It was estimated at 61% (6 out of 10 patients) of total patients seek medical assistance at the Accident and Emergency department came during the normal working hours, 30% (3 out of 10 patients) at pm shift and the remaining 9% (1 out of 10 patients) at night shift. Staff allocations are also correlated with fluctuation of workloads. As expected, there are four main tips on the above graphs representing lunch time and three changes of shift at 4:00pm, 12:00am and 8:00am.

Figure 6: Attendance at A&E During the day of the week, 2011



Source: Tonga Hospital Information System

During the week, the pattern of total patients attended at Outpatient Department is always high on Monday and slowly decrease to the lowest on Sunday. Daily patterns of patients attended Outpatients Department are relatively similar from Monday until Saturday. Attendances on Sunday are higher at PM shift and it is probably coincide with availability of the public following religious programme earlier the day. It was also observed that visiting friends and relative of admitted patients to Vaiola Hospital at Sunday evening also seek for medical care.

After –hours service (PM&N shifts) included only categories 1-4 patients, with increasing public awareness. This has allowed the limited after- hours staff to provide more efficient care for sick patients, with less physical stress, although congestion and piling up of patients, especially during an emergency, is still a major problem.

IT through HIS introduced patient data/clinical information registry for outpatient consultations and this proved useful for easy information access and retrieval. Quick access to laboratory results has to a certain degree, improved care for patients requiring further investigations, referrals, or admission to the wards, but this depends on laboratory staff workload and availability, especially during after- hour shifts.

The China Government funded Mu'a and Vaini Centers were opened earlier in the year, which were to be manned by medical officers. Lack of staff prevented this from happening. We had anticipated a more decentralized outpatient service and more offloading of stable patients to these centers but so far, there was no significant reduction in clinically stable patients coming from these rural districts.

Two temporary/trial receptionists were introduced during second half of the year, who provided invaluable assistance with dealing with patients, allowing nursing staff to deal with clinical matters.

There has been great anticipation within the unit on the upcoming transfer to the new facilities, hoping to be more efficient providers of outpatients and emergency care.

Table 15: Admission Statistics to Vaiola Hospital, 2011

Major Wards	Details	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Total
Medical Ward	Beddays	1266	1506	1479	1681	5932
	Admission	305	373	349	352	1379
	ALOS	4	4	4	5	4
	BOR	35%	42%	41%	47%	41%
Mental Health Unit	Beddays	3652	2525	4017	1317	11511
	Admission	55	52	59	49	215
	ALOS	66	49	68	27	54
	BOR	101%	70%	112%	37%	79%
Obstetrics	Beddays	2826	3402	2886	2483	11597
	Admission	1218	1413	1273	1077	4981
	ALOS	2	2	2	2	2
	BOR	92%	111%	94%	81%	93%
Paediatric Ward	Beddays	1447	1760	1338	1579	6123
	Admission	279	355	352	382	1368
	ALOS	5	5	4	4	4
	BOR	52%	63%	48%	57%	54%
Special Care Nursery	Beddays	282	550	502	392	1726
	Admission	29	43	27	31	130
	ALOS	10	13	19	13	13

Major Wards	Details	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Total
	BOR	52%	102%	93%	73%	79%
Surgical Ward	Beddays	2792	3253	2919	3173	12137
	Admission	342	352	355	440	1489
	ALOS	8	9	8	7	8
	BOR	78%	90%	81%	88%	83%

ALOS: Average length of stay

BOR: Bed Occupancy Rate

Source: Tonga Hospital Information System

8.1.1.1.2 Professional Development:

- Dr. Matamoana Tupou attended the Australasian College of Emergency Medicine's annual conference held in Sydney in November.
- HO Molimoli Pole attended a conference in Fiji in October for Primary Health Care in Non-communicable diseases.
- The Airport Disaster Exercise was held this year with Ministry of Health participation on the 7th of October.
- Volunteer Dr Michael Vannoort-LeMay who has work experience in trauma and emergency medicine through his work with Italian Red Cross and other organizations did 2 weeks of work in the OPD.
- A one-week South Australian Ambulance Services workshop was conducted in August at the Tonga National Centre. This updated our current Ambulance Officers and trained some new people from the police, fire, and outer islands health services. We also received a CPR training mannequin and AED (automated external defibrillator) units.
- Dr. Matamoana Tupou and Dr. Louise Fonua attended the 21st Asia-Pacific Military Medical Conference held in Sydney in May.

8.1.1.2 Mental Health

Compliance with the requirements of Mental Health Act No. 8, 2001, Security Issues, Clinical Inpatients Care and Special Outpatients Clinic, Community Outreached and Administration, 2011.

Table 16: Mental Health Key facts:

No.	Item names	Number
1	Number of Mental Health Review Tribunal (MHRT) - Court Sessions in 2011	35
2	Number of admission via section 23 of the the Mental Health Act 2001 (2011)	
	Brought by Police	83
	Brought by Others	176
3	Number of Detention Order under Section 18, MHA, 2001 which were Approved by the Mental Health Review Tribunal (HMRT) according to section 132, MHA, 2001	131
4	Total Community Treatment Orders issues (CTO)	126
5	Number of Consultation Liaison Psychiatry (CLP) for the year 2011	14
6	Number of Admission s of Forensic patients subject to the Criminal Act	19
7	Number of Home Visit for the year 2011	
	Visit to Hu'atoliloli Hospital	468
	Home visit to patients in the Community	45
8	Number of new outpatients for the year 2011	37

9	Total Number of attendants for the Pshychiatric Special Outpatient Clinic (PSOC)	681
10	Number of patients defaulted PSOC	262
11	Total number of deaths of known psychiatric cases (registered) for the year 2011	
	Suicides in Hu'atolitoi Prison (Prison's Hospital & Cell)	2
	Cerebal Vascular Accident (Medical Ward)	1
	Cardiac Arrest	1
	Old age (Home)	2
12	Number of referrals to the Women and Children Crisis Centre	22
13	Number of cases due to non-suicidal and suicidal self-harm recorded and formally interviewed by the START offices	
	Intention to die	32
	No intention to die	13
14	Number of Forensic Psychiatry Reports (Police/Magistrate Court/Supreme Court)	31
15	Number of TV/Radio Programme on Disabilities	10
16	Number of Tongan articles on Mental Health issues published on weekly basis in the Tonga Times	23
17	Number of incidents (violence & aggressions) in the ward	15
18	Number of In-Service Training implemented	29
19	Number of Family Dialogue (Fofola e fala kae alea e kainga)	8
20	Number of Ward Meetings	6
21	Number of Administration and Management Meetings	36

8.1.1.2.1 Community Support toward Psychiatric Unit

The Psychiatric Unit has been blessed by continuous assistance from churches and community members such as "Church of Tonga from Tofoa, Toakase (Seventh Adventist), Fekau'aki 'a Fafine (Catholic Women Group) and Salvation Army. At Christmas celebration, Fofa'anga Club hosted a Christmas party and handed over gifts for patients. Malapo Quarry and the Free Wesleyan Church of Malapo also contributed for the Christmas presents for the patients at Vaiola Hospital.

8.1.1.2.2 Professional Development:

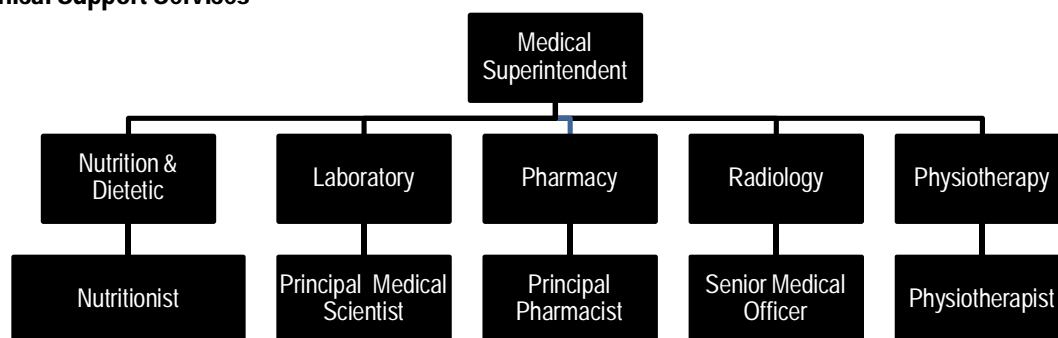
- This is the sixth year in a row that the component of Mental Health has been incorporated into the Sia'atoutai Theological College curriculum.
- Maintaining the functioning of the Tonga Mental Health and Disabilities Association.
- Continuing regional consultancy assignment at the Republic of Nauru as Authorised Pshychiatrist.
- Successful completion of one and a half year assignment of Dr. Yang Yanping, Psychiatrist from the Republic of China.
- Maintained of Psychiatric Unit plantation as part of the occupational therapies for inpatients which also contribute for the supplies of food for the patients.
- Introduction of Disability as integral part of the Mental Health Section.
- The establishment of an office for the National START Study Tonga Project (Suicide Trend At Risk Territories) in the Psychiatric Unit, Vaiola Hospital.

8.2 Non Clinical Services

Non Clinical Support Services is responsible for delivering Maintenance, Domestic, Catering, Laundry, Seamstress, Grounds Keeping, Central Sterile Supply and Switchboard Operation services for Vaiola Hospital.

Sections	Head of Section
Hospital Administration	Hatasou Taulanga
Catering	Esiteli Pasikala
Laundry	Funaki Ve'a
CSSD	Petulisa Tu'ipulotu
Maintenance	Feleti Eke
Telephone	Luseane Polota
Domestic	Ailine Foster

8.3 Clinical Support Services



Staffing Information:

Sections	Head of Section	Number of supporting staff
Nutrition & Dietetic	Ms. 'Esiteli Pasikala	1
Laboratory	Mrs. Ane Ika	28
Pharmacy	Mrs. Melenaite Mahe	26
Radiology	Dr. 'Ana 'Akau'ola	6
Physiotherapy	Sione Po'uliva'ati	0
Total staff	5	61

Divisional Milestones:

8.3.1.1 Radiological services:

The Radiological services available in Tonga are X-Rays services, fluoroscopy (Special X-Rays), and Ultrasound Services. The X-Rays are performed by the Radiographers and reported by the Senior Medical Officer in Charge. We try our best to do timely reporting of X-Rays performed as we know that it is an essential service to the diagnosis of diseases as well as for screening purposes of those migrating overseas and for those coming in to Tonga for a period of time.

Over the years, the number of X-rays performed in this section has not greatly increased. Recent events such as sending of seasonal workers to New Zealand and Australia will increase the number of x-rays performed per year. Although this is extra burden to the services, we are glad to perform these as we know that by sending these labourers to New Zealand and Australia will help boost the economy of the country.

The Ultrasound services, has been of great help to the clinical doctors. Obstetric ultrasound at 20 weeks is offered as routine scan for all mothers. Antenatal Diagnosis of Low Lying Placenta (Placenta Previa), and confirmation of foetal presentation has greatly helped the obstetrician's management of pregnant mothers. Diagnosis of diseases such as neoplasms in different parts of the body has made this an invaluable sub-speciality in our patient management.

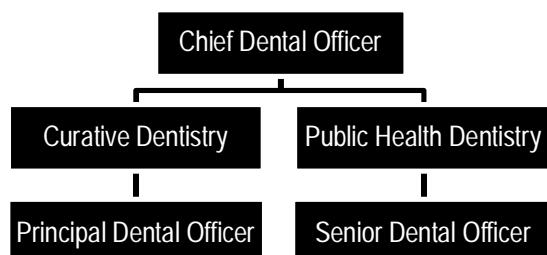
Last year we said good bye to Ms. Sakamoto who returned back to Japan after 2 years services in this section as ultrasonographer. Dr. Tan of China, joined us in July 2010 as an Ultrasound specialist. These 2 individuals have greatly helped with the running of ultrasound in Tonga. We are currently training Assistant Radiographer Grade II, Mr. Leonaitasi Mahe to perform Ultrasounds when these experts leave.

The formal Training of Radiographer Trainees started in September 2010. This training is conducted by Mr. Lopeti Heimuli, former Radiology Technologist, now retired and anticipated to be graduate as Assistant Radiographers by the end of June 2011.

9 DENTAL SERVICES

Mission Statement:

To provide a Dental Health Service for Tonga in such a way that people would actively participate and make Tonga a dentally fit country.



Staffing Information:

Sections	Head of Section	Number of supporting staff
Curative Dentistry	Dr. 'Amanaki Fakakovikaetau	36
Public Health Dentistry	Dr. Salise Faiva'ilo	5
Total staff	2	41

9.1.1.1 Curative Dentistry:

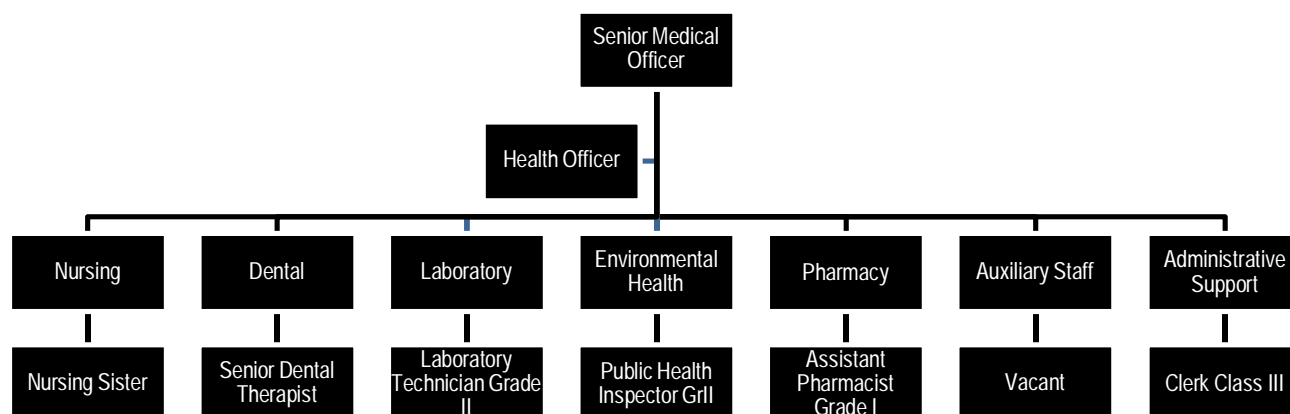
Curative Dentistry section is responsible for providing oral/dental services in the Hospital Setting.

9.1.1.2 Public Health Dentistry

Public Health Dentistry is responsible for providing oral/dental education services in the schools throughout Tonga.

10 ISLAND HEALTH DISTRICTS

10.1 'Eua



Staffing information:

Sections	Head of Section	Number of supporting staff
Medical	Dr. Sengili Moala	1
Nursing	Mele Kapani	11
Dental	Penisimani Taufu	1
Laboratory	Mele Vea Fonua	0
Environmental Health	'Amelia Vea	0
Pharmacy	'Eneasi Palanite	0
Auxiliary	Dr. Sengili Moala	10
Administrative Support	Lute 'Eli	1
Medical Records	Puataukanave Mala'efo'ou	0
Total staff	8	24

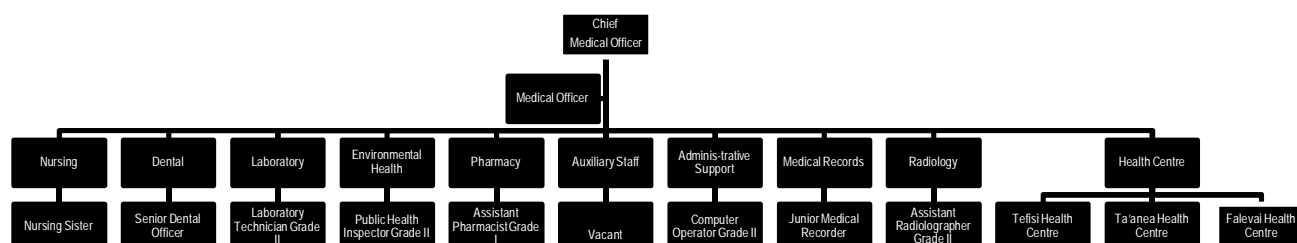
Table 17: Demographic Summary of 'Eua Island Group for 2010

Population	Male	Female	Total	
			Number	%
Infants (below 1yr)	47	65	112	2.3
1 – 4 years	266	270	536	11.0
5 – 9 years	302	316	618	12.6
10 – 14 years	305	276	581	11.9
15 – 19 years	275	216	491	10.0
20 – 24 years	199	197	396	8.1
25 – 29 years	197	182	379	7.7
30 – 39 years	264	264	528	10.8

40 – 49 years	259	244	503	10.3
50 –59 years	168	166	334	6.8
60 – 69 years	109	112	221	4.5
70 + years	77	91	168	3.4
TOTAL POPN – this period	2468	2399	4867	
TOTAL POPN – last period	2479	2423	4902	
	Male	Female	Total	
Migration out > 6/12	127	127	254	
Migration in > 6/12	78	70	148	
Total Deaths	33	16	49	
Natural Population Growth 1.2 %	$= \frac{(Births - Deaths)}{Total Population} \times 100$ $= 2.02\%$			
Net Population Growth -0.8%	$= \frac{(Births - Deaths) + (Migration in - Migration out)}{Total Population} \times 100$ $= 1.9\%$			

Source: Reproductive Health Section

10.2 Vava'u



Staffing information:

Sections	Head of Section	Number of supporting staff
Medical	Dr. Edgar 'Akau'ola	2
Nursing	Meliame Tupou	27
Dental	Sitaniselao Kisina	0
Laboratory	Epitani Vaka	1
Environmental Health	Manase Malua	5
Pharmacy	Mosese 'Ilangana	2
Auxiliary	Vuna Kupu	18
Administrative Support	Manavahe Ata	1
Medical Records	Leonia Finau	1
Total staff		

Divisional Milestones:

10.2.1.1.1 KRA 1-Build capability and effectiveness in preventive health services to fight NCD epidemic and communicable disease

- Ongoing Medical Clinic and Health Education during Clinics
- Continued Outreach Programme every Thursday
- Continued Screening for STI's especially Pregnant Mothers
- Screening for TB in Suspected Cases
- Maintain > 95% Immunisation Coverage and to Reduce Infant Mortality Rate, Maternal Mortality and Perinatal Mortality
- Malimali programme –prevention of dental caries

10.2.1.1.2 KRA 2- Improve The Efficiency and Effectiveness of Curative Health Service Delivery

- Ongoing training from visiting teams from Vaiola Hospital
- Staff Rotation to strengthen confidence and competency
- Waiting time at GOPD is not a problem according to a recent survey by trainee
- Standard healthcare delivery is currently up to standard
- Build good communication and relationship with Vaiola eg case referral specialist always willing to assist

10.2.1.1.3 KRA 3- Provision of services in outer island district and community health centers

- Currently human resource limitation limits provision of services to the outer islands of Vava'u
- An increase in MO this year CMO and an additional MO this year will facilitate service provision to Health Centres of Tefisi and Taanea and later to Falevai and Hunga
- Currently all the services are provided from the main hospital

10.2.1.1.4 KRA 4 - Build staff commitment and development

- 3 staff completed midwifery training
- 1 staff attended the reproductive health training in Fiji
- 1 NP returned from Fiji
- Regular staff meetings to enhance performances
- Encourage further training opportunities overseas & locally
- Continuous education

10.2.1.1.5 KRA 6 –Continue to improve the ministry infrastructure and ICT

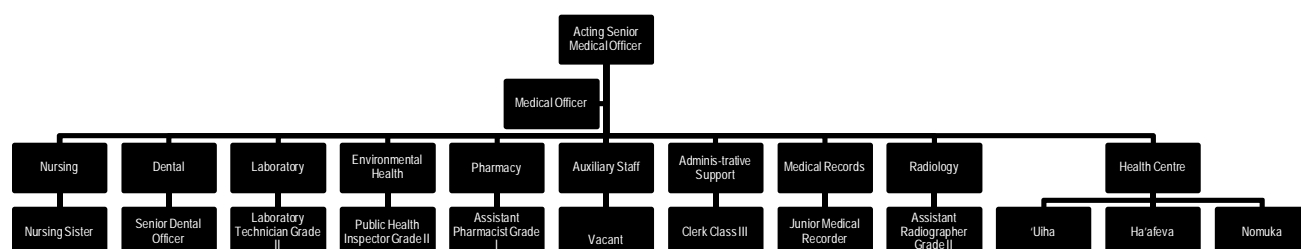
A new extension has been completed to accommodate public health and other sections

Table 18: Demographic Summary of Vava'u Island Group for 2010

Population	Male	Female	Total	
			Number	%
Infants (below 1yr)	195	173	368	2.4
1 – 4 years	776	699	1475	9.7
5 – 9 years	1059	878	1937	12.8
10 – 14 years	995	874	1869	12.3
15 – 19 years	837	841	1678	11.1
20 – 24 years	578	563	1141	7.5
25 – 29 years	461	509	970	6.4
30 – 39 years	787	825	1612	10.6
40 – 49 years	764	793	1557	10.2
50 –59 years	502	550	1052	6.9
60 – 69 years	378	378	756	5.0
70 + years	320	383	703	4.6
TOTAL POPN – this period	7652	7466	14118	
TOTAL POPN – last period	7738	7422	15160	
	Male	Female	Total	
Migration out > 6/12	448	430	878	
Migration in > 6/12	293	265	558	
Total Deaths	52	38	90	
Natural Popn Growth 1.7 %	$= \frac{(\text{Births} - \text{Deaths})}{\text{Total Population}} \times 100$			
Net Population Growth -0.3%	$= \frac{(\text{Births} - \text{Deaths}) + (\text{Migration in} - \text{Migration out})}{\text{Total Population}} \times 100$			

Source: Reproductive Health Section

10.3 Ha'apai



Staffing information:

Sections	Head of Section	Number of supporting staff
Medical	Tevita Vakasiuola	1
Nursing	Kalisi Finau	17
Dental	Vacant	2
Laboratory	Sione 'Isoa	0
Environmental Health	Moses Fifita	0
Pharmacy	Manase Tongia	0
Auxiliary	Vacant	10
Administrative Support	Hisipanio Iketau	0
Medical Records	Lesieli 'Ali	0
'Uiha	Saane Fangaloka	0
Ha'afeva	Fusi Kaho	1
Nomuka	Tupou Taufa	1
Total staff	11	32

Divisional Milestones:

10.3.1.1.1 KRA 1-Build capability and effectiveness in preventive health services to fight NCD epidemic and communicable disease

- Clean water supply awareness & inspections
- Clinical waste management
- Partnerships with Air NZ Green Team promoting waste management and cleaning up campaigns

10.3.1.1.2 KRA 2- Improve The Efficiency and Effectiveness of Curative Health Service Delivery

- Outer Island Tour

- Donate biomedical equipments and medical supplies by Medshare USA (LDS), Vaiola, Missionary.
- Availability of most EDL at the pharmacy
- New Second Hand Vehicles
- Workshops - at Niu'ui and Vaiola on different fields.
- New computers/ laptop funded by AusAid Flexi Funds

10.3.1.1.3 KRA 3- Provision of services in outer island district and community health centers

Various visiting team to Niu'ui

- HIV/ TB
- Health Information
- Administration
- Health Promotion – Filariasis Survey
- RH Teams
- Malimali Programme Visiting Teams
- Lab Teams

Workshops at Nuku'alofa

- HIV/TB
- Management Workshops for Sisters
- RF and Echo
- Ambulance's Driver workshops
- Installing of mSupply for Pharmacy use

10.3.1.1.4 KRA 4 - Build staff commitment and development

- Study course – midwife/ RH Management
- In service training for Nurses
- Customer service training
- Nurses competencies workshops

10.3.1.1.5 KRA 6 –Continue to improve the ministry infrastructure and ICT

- Newly opens Centres and Nurse's quarter at Kauvai/ 'Uiha
- Starts building of the temporary foreshore at Niu'ui Hospital

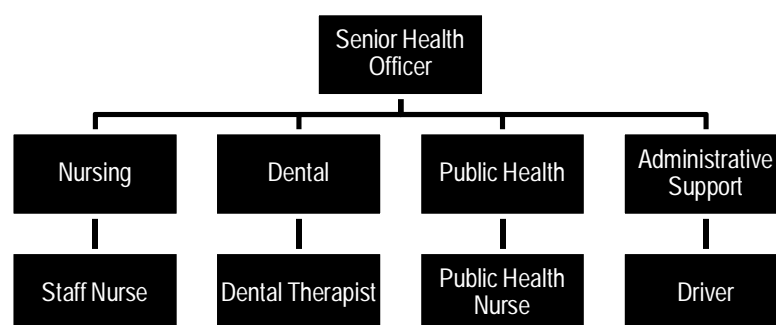
Table 19: Demographic Summary of Ha'apai Island Group for 2011

Population	Male	Female	Total	
			Number	%
Infants (below 1yr)	102	74	176	2.7
1 – 4 years	357	300	657	10
5 – 9 years	433	353	786	12
10 – 14 years	406	388	794	12.1
15 – 19 years	384	321	705	10.7
20 – 24 years	312	266	578	9
25 – 29 years	213	231	444	6.8
30 – 39 years	349	371	720	11
40 – 49 years	307	308	615	9.3
50 – 59 years	217	242	459	6.9
60 – 69 years	168	191	359	5.4

70 + years	141	134	275	4.1
TOTAL POPN – this period	3389	3179	6568	
TOTAL POPN – last period	3411	3355	6766	
	Male	Female	Total	
Migration out > 6/12	358	361	719	
Migration in > 6/12	206	198	404	
Total Deaths	36	23	59	
Natural Population Growth 1.8 %	$= \frac{(Births - Deaths)}{Total Population} \times 100$			
Net Population Growth -3 %	$= \frac{(Births - Deaths) + (Migration in - Migration out)}{Total Population} \times 100$			

Source: Reproductive Health Section

10.4 Niuafo'ou



Staffing Information:

Sections	Head of Section	Number of supporting staff
Medical	Viliami Falevai	0
Nursing	Telesia Tu'itupou	0
Dental	Lu'isa Salt	0
Public Health	Fifita Hafoka	0
Administrative Support	Vacant	0
Total staff	4	0

Statistical Information:

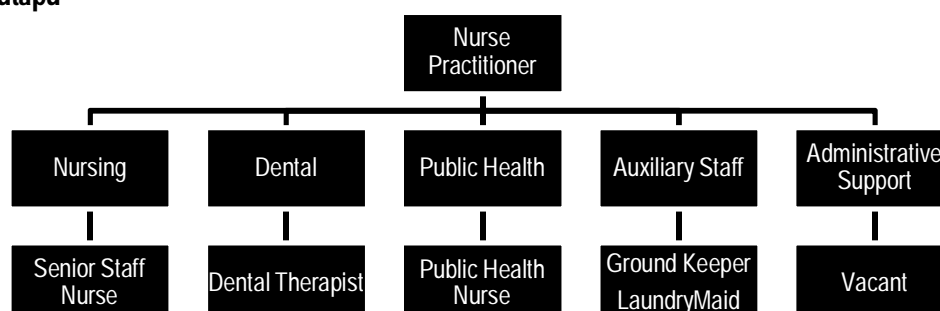
Table 20: Demographic Summary of Niuafo'ou Island Group for 2011

Population	Male	Female	Total	
			Number	%
Infants (below 1yr)	3	5	8	1.4
1 – 4 years	21	25	46	8.3
5 – 9 years	44	27	71	12.9
10 – 14 years	38	34	72	13.0
15 – 19 years	24	21	45	8.1
20 – 24 years	21	17	38	6.9
25 - 29 years	11	15	26	4.7
30 – 39 years	33	35	68	12.3
40 – 49 years	45	28	73	13.2
50 –59 years	21	25	46	8.3
60 – 69 years	12	12	24	4.3
70 + years	23	12	35	6.3
TOTAL POPN – this period	296	256	552	
TOTAL POPN – last period	288	248	536	
	Male	Female	Total	
Migration out > 6/12	1	2	3	
Migration in > 6/12	5	4	9	
Total Deaths	5	1	6	

Natural Popn Growth 0.2%	$= \frac{(Births - Deaths)}{Total Population} \times 100$
Net Population Growth 1.3%	$= \frac{(Births - Deaths) + (Migration in - Migration out)}{Total Population} \times 100$

Source: **Reproductive Health Section**

10.5 Niuatoputapu



Staffing Information:

Sections	Head of Section	Number of supporting staff
Medical	Paea 'I Moana Fifita	0
Nursing	Monika 'Onesi 'Uvea	1
Dental	Luisa Salt	0
Public Health	Vacant	0
Administrative Support	Vacant	0
Auxiliary	Leo 'Onesi	2
Total staff	4	3

Table 21: Demographic Summary of Niuatoputapu Island Group for 2011

Population	Male	Female	Total	
			Number	%
Infants (below 1yr)	6	7	13	1.5
1 – 4 years	34	32	66	7.8
5 – 9 years	45	46	91	10.8
10 – 14 years	48	40	88	10.4
15 – 19 years	55	36	91	10.8
20 – 24 years	31	31	62	7.4
25 – 29 years	28	21	49	5.8
30 – 39 years	42	47	89	10.6
40 –49 years	37	45	82	9.7
50 – 59 years	48	55	103	12.2
60 – 69 years	41	21	62	7.4
70 years+	25	22	47	5.6
TOTAL POPN – this period	440	403	843	
TOTAL POPN – last period	444	421	865	
	Male	Female	Total	
Migration out > 6/12	47	52	99	
Migration in > 6/12	34	32	66	
Total Deaths	1	0	1	
Natural Popn Growth 1.3%	$= \frac{(\textit{Births} - \textit{Deaths})}{\textit{Total Population}} \times 100$			
Net Population Growth 2.6%	$= \frac{(\textit{Births} - \textit{Deaths}) + (\textit{Migration in} - \textit{Migration out})}{\textit{Total Population}} \times 100$			

Source: Reproductive Health Section

11 APPENDIX

Appendix 1: Health workers in 2005 and January 2013

Health Occupational Categories/Cadres	2005		2013	
	N	HW/1000 population (Pop. 102,300)	N	HW/1000 population (Pop. 103,036)
Generalist medical practitioners	37	0.36	36	0.35
Specialist medical practitioners	3	0.03	19	0.18
Health officers	31	0.30	20	0.19
Advanced practice nurses	2	0.02	31	0.30
Graduate/registered/professional nurses	318	3.11	256	2.48
Student nurses			97	0.94
Midwives	32	0.31	24	0.23
Dentists	13	0.13	12	0.12
Dental technicians and assistants	27	0.26	27	0.26
Pharmacists	4	0.04	4	0.04
Pharmaceutical technicians and assistants	18	0.18	23	0.22
Medical imaging and therapeutic equipment technicians	11	0.11	7	0.07
Medical and pathology laboratory technicians	29	0.28	25	0.24
Physiotherapists	1	0.01	1	0.01
Nutritionists and dietitians	3	0.03	3	0.03
Biomedical engineers	0	0.00	0	0.02
Environmental health and hygiene professionals	24	0.23	26	0.25
Health professionals not elsewhere classified	16	0.15	17	0.16
Health service managers	4	0.04	3	0.03
Health management personnel not elsewhere classified	10	0.10	5	0.05
Medical records and health information technicians	11	0.11	14	0.14
Non-health professionals not elsewhere classified	16	0.16	15	0.15
Service and sales workers	20	0.2	32	0.31
Personal care workers in health services not elsewhere classified	6	0.06	13	0.13
Clerical support workers	13	0.13	41	0.40
Domestic and support services	161	1.57	56	0.54
Total	810	7.92	809	7.85

Source: Human Resource Section, Ministry of Health

Description: This table presents the staff establishment of the Ministry of Health in 2005 and 2013.

Appendix 1: Estimates of Health Expenditure and Revenue Government of Tonga, Fiscal Years 2003/2004-2010/2011

FISCAL YEAR	MINISTRY OF HEALTH GROSS RECURRENT EXPENDITURE	MINISTRY OF HEALTH REVENUE	OF TOTAL	MINISTRY OF HEALTH NET RECURRENT EXPENDITURE	PROJECTED POPULATION OF TONGA	MINISTRY OF HEALTH GROSS RECURRENT EXPENDITURE PER HEAD
2011/12 (App Budg)	22,596,000	100000		22,496,000	103252	219
2010/2011(App Bud)	22,500,000	1,000,000		21,500,000	103641	217
2009/2010 (App Bud)	21,375,000	1,000,000		21,375,000	103,185	207
2008/2009 (App Bud)	21,580,000	506,000		21,074,000	102,724	210
2007/2008 (App Bud)	17,760,981	506,353		17,254,628	102,259	174
2006/2007 (App Bud)	20,170,094	330,544		19,839,550	102,907	196
2005/2006 (Prov)	17,442,899	338,056		17,104,843	102,369	170
2004/2005 (Prov)	13,520,930	371,126		13,149,804	101,865	133
2003/2004 (Act)	11,765,173	336,136		11,429,037	101,404	116

Source: Program Budget Estimate of the Government of Tonga
Tonga Population Census 1996 Demographic Analysis, Statistics Department
Tonga Government Gazette, 27th June 2005
Ministry of Finance

Description: This table contains data of financial resources allocated from the Government of Tonga to the Ministry of Health. It also shows the revenue generated from services delivered by the Ministry of Health and deposited with the Ministry of Finance. The Net Recurrent Expenditure column is derived as the difference between Gross Recurrent Expenditure and Total Revenue. The Gross Recurrent Expenditure per head is derived by dividing Gross Recurrent Expenditure by Projected Population Column.

App Bud- Approved Budget
(Act) - Official amount that has been Gazetted.
(Prov) - Provisional amount provided by Ministry of Finance but has been not Gazetted
(Est) - Estimated Amount from the Budget Estimate of the Government of Tonga for the Current Financial Year.

Note: All data in this table have been revised from the Annual Report 2005 except Projected Population. This revision was based on the adjustment of the Gross Recurrent Expenditure and Ministry of Health's Total Revenue column from Estimated to Actual and Provisional Amounts.

**Appendix 2: Ministry of Health Recurrent Expenditure and Government Recurrent Expenditures:
Government of Tonga, 2005/2006 - 2010/2011**

FISCAL YEAR	HEALTH SERVICES EXPENDITURE	TOTAL GOVERNMENTS RECURRENT EXPENDITURE	% OF TOTAL GOVERNMENT EXPENDITURE
2010-2011 (Est)	22,500,000	222,064,744	10.1%
2009-2010 (Est)	21,375,000	182,596,569	11.7%
2008-2009 (Est)	21,580,000	215,639,239	10.0%
2006-2007 (Est)	17,760,981	235,608,737	7.5%
2005-2006 (Est)	14,845,304	167,333,724	10.4%

Source: Program Budget Estimate of the Government of Tonga
Tonga Population Census 1996 Demographic Analysis, Statistics Department
Tonga Government Gazette, 27th June 2005
Ministry of Finance

Description: This table contains the Gross Recurrent Expenditure of the Ministry of Health and the Government of Tonga. The percentage of Total Government Expenditure is derived from the Ministry and the Government's Recurrent Expenditure.

Appendix 4: Population by Sex, 2002 – 2011

YEARS	BOTH	MALE	FEMALE
2011	103252	51,979	51,273
2010	103641	52,575	51,067
2009	103185	52351	50834
2008	102730	52127	50603
2007	102259	51898	50361
2006	102907	52561	50346
2005	102369	52260	50109
2004	101865	51975	49890
2003	101404	51711	49693
2002	101002	51473	49529

Source: Tonga Population Census 2011 Demographic Analysis

Description: This data was extracted from the Tonga Population Census 2006 and 2011.

Appendix 5: Population Break Down by Sex and Age Group, 2011

AGE GROUPS	TOTAL	ACCUMULATE %	MALE	FEMALE
ALL AGES	103252	100%	51979	51273
0 - 4	13499	13%	7085	6414
5 - 9	12873	12%	6671	6202
10 - 14	12085	12%	6361	5724
15 - 19	10967	11%	5675	5292
20 - 24	8229	8%	4130	4099
25 - 29	7590	7%	3575	4015
30 - 34	6411	6%	3094	3317
35 - 39	5755	6%	2783	2972
40 - 44	5753	6%	2889	2864
45 - 49	4582	4%	2368	2214
50 - 54	3717	4%	1796	1921
55 - 59	3159	3%	1522	1637
60 - 64	2528	2%	1220	1308
65 - 69	2143	2%	1010	1133
70 - 74	1725	2%	836	889
75+	2221	2%	954	1267
NS	15	0%	10	5

Source: Tonga Population Census 2011 Demographic Analysis

Description: The above data was extracted from the Tonga Population Census 2011 to show the estimated population and age group for 2010 and age group. Please note that there are slight differences between this table and the Tonga Population Census 2011 but this is attributed to decimal point rounding.

Appendix 6: Reported Livebirths, Total Deaths and Infant Deaths Under 1 Year, 2006 – 2011

YEARS	LIVEBIRTHS		DEATHS		INFANT DEATHS	
	TOTAL	CRUDE BIRTH RATE*	TOTAL	CRUDE DEATH RATE *	TOTAL	INFANT MORTALITY RATE **
2011	2766	26.8	656	6.4	42	15.2
2010	2695	26.0	553	5.3	45	16.7
2009	2623	25.4	571	5.5	38	14.5
2008	2746	26.7	520	5.1	45	16.4
2007	2738	26.8	541	5.3	32	11.7
2006	2716	26.5	514	5.0	29	10.7

* Rate per 1,000 population

** Rate per 1,000 livebirths

Source: Death Database, Health Information Section
Livebirth Database, Health Information Section
Vaiola Hospital Mortuary Registration Book
Admission and Discharge Database, Health Information and Medical Records Section

Description: The table reflects the absolute number and rate of livebirths, deaths and infant deaths for the whole of Tonga.

Appendix 7: Reported Livebirths by Age of Mother and District, 2011

Age Group	Female	Male	Total	Accum%	Vaiola	Ngu	Niu'eiki	Niu'ui	Other
<15		1	1	0%		1			0
'15-19	78	81	159	6%	148	8		3	0
'20-24	305	363	668	24%	568	68	9	20	3
'25-29	423	472	895	32%	780	88	7	14	6
'30-34	261	324	585	21%	513	51	7	8	6
'35-39	172	155	327	12%	283	31	4	9	0
'40-44	53	54	107	4%	85	19	2	1	0
'45-50	7	1	8	0%	6	2			0
'50+	1		1	0%	1				0
NA	8	7	15	1%	10	2		2	1
Grand Total	1308	1458	2766	100%	2394	270	29	57	16

Source: Livebirth Certificates issued by the Ministry of Health.

Description: This table captures the distribution of livebirths by age of mother and by district. The primary data source of this database is the duplicate copies of the Certificate of livebirth which are issued by staff of the Ministry of Health for livebirths occurring in hospitals, health centres and the community.

Limitations: There is a small percentage of livebirths that may not be captured in the Ministry's livebirth process. A validation process is taking place between the Health Information Database, Reproductive Health Section and Obstetric Wards data to improve reporting. The discrepancies between these sources are now less than 3%.

Appendix 8: Reported Deaths By Age and District, 2011

Age Group	Female	Male	Total	Accum.%	Vaiola	Ngu	Niu'eiki	Niu'ui	Others
<1	23	19	42	6%	15	2		1	24
'1-4	3	6	9	1%	3	1			5
'5-14	4	5	9	1%	2				7
'15-24	6	11	17	3%	3	1			13
'25-34	7	8	15	2%	5				10
'35-44	13	24	37	6%	10	2			25
'45-54	30	56	86	13%	30	3	2	2	49
'55-64	37	62	99	15%	37	4	1	1	56
'65-74	57	84	141	21%	65	8			68
75+	76	125	201	31%	83	8	6	1	103
Total	256	400	656	100%	253	29	9	5	360

Source: Medical Records Inpatient Death Database
Death Certificates issued by the Ministry of Health

Description: This table reflects the pattern of mortality by age group, sex and districts irrespective of cause of death.

Limitation: It is acknowledge that there may be cases of unreported deaths especially those who die in the community and the isolated islands. Further work is being undertaken to validate community deaths.

Appendix 9: Health Facilities by District, 2011

DISTRICT	LOCATION	ESTIMATED POPULATION	AVAILABLE HEALTH FACILITY		
			HOSPITAL	HEALTH CENTRE	MCH CLINIC
TONGATAPU	Tofoa	70450	1	0	19
	Kolonga	5024	0	1	0
	Mu'a	5688	0	1	0
	Fua'amotu	4073	0	1	0
	Vaini	6315	0	1	0
	Houma	4334	0	1	0
	Nukunuku	3152	0	1	0
	Kolovai	3566	0	1	0
VAVA'U	Neiafu	16530	1	0	5
	Ta'anea	2410	0	1	0
	Falevai	1328	0	1	0
	Tefisi	2498	0	1	0
HA'APAI	Hihifo	8558	1	0	5
	Nomuka	772	0	1	0
	Ha'afeva	1347	0	1	0
'EUA	Niu'eiki	5190	1	0	3
NIUA'S	Niuaoputapu	1349	0	1	1
	Niuafo'ou	772	0	1	1

Source: Estimated Population based on Statistics Department projections.

Description: This is a list of health facilities (Hospital, Health Centre and MCH Clinic), their location and the estimated population living in these area served by the respective health facility.

Assumption: Due to a lack of precise indicators to measure the population mobility and the variance of natural increase, the Ministry assumes that the proportion of the population living in each place remains the same over time.

Appendix 10: Health Services: Health Centre Activities, 2011

	Fua'amotu	Houma	Kolonga	Kolovai	Mu'a	Nukunuku	Vaini	Total
Total Patient	5,835	5,935	3,230	5,307	12,603	1,796	5,434	40,140
Acute	5,869	4,959	2,235	4,531	7,280	1,656	4,803	31,333
Infectious	11	2	8	4	1,533	0	1	1,559
Chronic	131	480	353	562	485	147	484	2,642
Diabetes	450	455	218	481	469	38	311	2,422
Hypertension	94	319	39	476	255	35	261	1,479
Heart Disease	0	1	1	24	1	2	0	29
Accident	0	0	0	1	7	0	1	9
Cancer	4	0	0	0	0	0	0	4
Total Visit	12,394	12,151	6,084	11,386	22,633	3,674	11,295	79,617
<1	422	376	328	342	894	140	309	2,811
1-4	979	939	618	822	2,519	380	739	6,996
5-14	792	1,308	487	708	2,142	280	700	6,417
15-24	522	625	329	319	1,480	167	629	4,071
25-34	647	558	358	236	1,361	206	741	4,107
35-44	542	508	299	573	1,255	222	832	4,231
45-54	575	503	287	847	1,028	151	540	3,931
55-64	524	579	260	1,004	1,082	109	375	3,933
65-74	506	363	194	380	682	89	256	2,470
75+	407	286	147	67	493	52	275	1,727
Health Programme	5,916	6,045	3,307	5,298	12,936	1,796	5,396	40,694
Home Visit	87	120	18	12	44	7	4	292
Preventative	1	0	47	0	81	0	0	129
Immunization	0	0	2	9	15	0	0	26

Source: Health Officers' Monthly Report

Description: Summary of the 9 major activities delivered in the health centres and the number of services delivered.

Appendix 11: Ante Natal Clinic Attendance (New) by Trimester and District, 2011

TRIMESTER	TONGA		TT		VV		HP		'EUA		NIIUA'S	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Early (12 weeks)	218	8.2%	136	7.0%	23	6.1%	30	16.9%	22	17.6%	7	30.4%
I (13-20 weeks)	686	25.9%	431	22.1%	117	30.8%	81	45.5%	44	35.2%	13	56.5%
II (21-32 weeks)	1258	47.4%	950	48.8%	197	51.8%	59	33.1%	49	39.2%	3	13.0%
III (33+)	452	17.0%	397	20.4%	40	10.5%	8	4.5%	7	5.6%	0	0.0%
No Booking	38	1.4%	32	1.6%	3	0.8%	0	0.0%	3	2.4%	0	0.0%
TOTAL	2652	100.0%	1946	100.0%	380	100.0%	178	100.0%	125	100.0%	23	100.0%

No Booking: No ante natal care

Source: Reproductive Health Section

Description: This table provides the number of mothers attending the Ante Natal Clinic by the stages of pregnancy by District for 2011.

Appendix 12: Immunization Programme Coverage, 2011

Immunization	Tonga				Tongatapu		Vava'u		Ha'apai		'Eua		Niuas	
		Tot	Imm.	%	Tot	Imm.	Tot	Imm.	Tot	Imm.	Tot	Imm.	Tot	Imm.
BCG	1	2842	2839	99.9%	2182	2181	368	368	160	159	112	111	20	20
POLIO	1	2833	2833	100.0%	2226	2226	315	315	158	158	116	116	18	18
	2	2705	2703	99.9%	2128	2126	293	293	153	153	111	111	20	20
	3	2594	2581	99.5%	2056	2044	274	273	145	145	102	102	17	17
HEP B	1	2842	2841	100.0%	2182	2181	368	368	160	160	112	112	20	20
DPT/HepB./HIB	1	2833	2833	100.0%	2226	2226	315	315	158	158	116	116	18	18
DPT/HIB	2	2706	2704	99.9%	2128	2126	293	293	154	154	111	111	20	20
DPT/HIB	3	2598	2586	99.5%	2056	2044	274	274	148	148	102	102	18	18
MR	1	2866	2849	99.4%	2142	2130	397	393	166	165	132	132	29	29
	2	2652	2636	99.4%	1987	1972	325	325	185	185	122	122	33	32
DPT	4	2652	2636	99.4%	1987	1972	325	325	185	185	122	122	33	32
TOTAL		30123	30041	99.7%	23300	23228	3547	3542	1772	1770	1258	1257	246	244

Source: Reproductive Health Manual Registration

Description: This table shows the type immunization provided by Public Health Nurses, the coverage rate of immunization for 2011.

Appendix 13: Infant Nutritional Mode, 2011

Nutritional Mode	TONGA		Tongatapu		Vava'u		Ha'apai		'Eua		Niuas	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
A. Exclusive Breast Feeding:												
(4 - 12 months)	1690	71.8%	1205	68.6%	271	84.4%	115	75.7%	85	79.4%	14	87.5%
B. No Breast Feeding:												
(4 - 12 months)	1041	44.2%	665	51.9%	214	66.7%	74	54.4%	75	70.1%	13	81.3%
C. Breast Feeding with Supplement:												
(4 - 12 months)	399	17.0%	318	18.1%	44	13.7%	16	10.5%	18	16.8%	3	18.8%
Total No. of Mother's interviewed	2353		1757		321		152		107		16	

Source: Reproductive Health Manual Registration

Description: This table shows the number and rates of the different types of infant feeding for the main island of Tonga as reported by mothers who were interviewed for 2011.

Appendix 14: Total Contraceptive Users by Method and Age, (Method Mix), 2010

AGE GROUP	IUD	PILL		CONDOM		TL	Other	VAS	NATURAL METHOD	DEPO	TOTAL
		C	M								
Below 20	4	7	6	26	1	1		0	3	45	93
20 - 24	49	64	77	118	2	7		0	25	342	684
25 - 29	148	131	128	223	3	56		0	63	672	1424
30 - 34	179	167	108	209	4	274		0	88	622	1651
35 - 39	184	106	57	126	1	434		1	81	476	1466
40 - 44	137	66	38	82	0	534		0	87	307	1251
45 +	88	17	6	18	0	330		2	44	135	640
TFHA	81	103	8	532	8	0		0	0	94	826
TOTAL	870	661	428	1334	19	1636	0	3	391	2693	8035

C:- Combined

M:- Mini-pill

Source: Reproductive Health Manual Registration

Description: This table shows the contraceptive users by method and age group for 2010.

Appendix 15: Medically Certified Causes of Inpatient and Outpatient Deaths by Age Group, 2011

CAUSES OF DISEASES	TOTAL			<1		'1-4		'5-14		'15-24		'25-34		'35-44		'45-54		'55-64		'65-74	
	BOTH	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Certain infectious and parasitic diseases	33	12	21	2	1	1	0	0	0	0	1	0	0	0	1	2	2	2	3	1	5
Other specified sepsis	1	0	1																1		
Salmonella sepsis	1	0	1		1																
Sepsis due to unspecified staphylococcus	1	0	1																		
Sepsis, unspecified	27	11	16	2		1					1				1	1	2	2	1	1	5
Tuberculosis of lung, without mention of bacteriological or histological confirmation	1	0	1																		
Unspecified viral hepatitis without hepatic coma	1	0	1																1		
Viral infection, unspecified	1	1	0													1					
Congenital malformations, deformations and chromosomal	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Congenital malformation of heart, unspecified	1	1	0	1																	
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Anaemia, unspecified	1	0	1																		1
Disease of blood and blood-forming organs, unspecified	1	0	1																		
Diseases of the circulatory system	174	55	119	1	0	0	1	1	1	1	4	0	4	4	10	10	17	5	17	17	30
Acute myocardial infarction, unspecified	33	9	24				1	1	1					1	2	2	5		3	3	3
Acute transmural myocardial infarction of other sites	1	0	1																		1
Acute transmural myocardial infarction of unspecified site	3	0	3																1		1
Aneurysm of iliac artery	1	0	1												1						
Atherosclerotic cardiovascular disease, so described	1	0	1																		
Atherosclerotic heart disease, of unspecified vessel	1	0	1																		1
Atrial fibrillation and flutter	2	1	1																	1	
Cardiac arrest with successful resuscitation	1	0	1										1								

CAUSES OF DISEASES	TOTAL			<1		'1-4		'5-14		'15-24		'25-34		'35-44		'45-54		'55-64		'65-74	
	BOTH	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Cardiac arrest, unspecified	32	10	22							2		1		2		2	2	1	6	2	7
Cardiovascular disease, unspecified	3	2	1													1	1			1	
Cerebral aneurysm, nonruptured	1	0	1														1				
Cerebral infarction, unspecified	1	0	1																		1
Chronic ischaemic heart disease, unspecified	24	11	13										1	1	2	3	2	2		2	3
Conduction disorder, unspecified	1	0	1																		1
Congestive heart failure	11	4	7											1						2	3
Dilated cardiomyopathy	1	0	1																		
Disease of pericardium, unspecified	1	0	1							1											
Embolism and thrombosis of arteries of extremities, unspecified	1	0	1																		
Essential (primary) hypertension	6	2	4														1		1		
Heart disease, unspecified	2	0	2																		2
Heart failure, unspecified	2	0	2																		2
Hypertensive heart disease with (congestive) heart failure	1	0	1											1							
Intracerebral haemorrhage, unspecified	8	5	3													1		2		1	2
Intracranial haemorrhage (nontraumatic), unspecified	2	1	1															1		1	
Left bundle-branch block, unspecified	1	0	1															1			
Left ventricular failure	3	2	1	1																1	1
Myocarditis in bacterial diseases classified elsewhere	1	0	1																		1
Other forms of chronic ischaemic heart disease	1	0	1							1											
Pulmonary embolism without mention of acute cor pulmonale	1	0	1															1			
Pulmonary heart disease, unspecified	2	0	2																		
Sequelae of stroke, not specified as haemorrhage or infarction	1	0	1									1									
Stroke, not specified as haemorrhage or infarction	18	6	12							1				1	1		3		2	2	1
Sudden cardiac death, so described	2	1	1											1						1	
Unstable angina	4	1	3													1	2		1		

CAUSES OF DISEASES	TOTAL			<1		'1-4		'5-14		'15-24		'25-34		'35-44		'45-54		'55-64		'65-74	
	BOTH	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Diseases of the digestive system	15	3	12	0	0	0	0	0	0	0	0	0	1	0	1	0	2	2	2	1	1
Alcoholic hepatic failure	1	0	1																		
Cellulitis and abscess of mouth	1	0	1																		
Gastrointestinal haemorrhage, unspecified	4	0	4												1						1
Hepatic failure, unspecified	2	0	2														2				
Liver disease, unspecified	2	1	1										1					1			
Obstruction of bile duct	1	1	0															1			
Other and unspecified cirrhosis of liver	1	0	1																1		
Peptic ulcer, chronic or unspecified with haemorrhage	1	0	1																1		
Peptic ulcer, unspecified as acute or chronic, without haemorrhage or perforation	1	0	1																		
Perforation of intestine (nontraumatic)	1	1	0																	1	
Diseases of the genitourinary system	30	17	13	11	8	0	1	0	0	0	0	0	0	3	0	2	0	0	0	0	1
Acute renal failure, unspecified	4	2	2											2							1
Chronic tubulo-interstitial nephritis, unspecified	1	1	0													1					
End-stage renal disease	13	8	5	6	4									1		1					
Obstructive and reflux uropathy, unspecified	1	0	1																		
Other acute renal failure	1	1	0																		
Unspecified chronic renal failure	7	3	4	3	3		1														
Unspecified renal failure	2	2	0	2																	
Urinary tract infection, site not specified	1	0	1		1																
Diseases of the musculoskeletal system and connective tissue	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Hypersensitivity angitis	1	1	0													1					
Postmenopausal osteoporosis with pathological fracture, multiple sites	1	0	1																		1
Diseases of the nervous system	11	5	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1
Cerebral palsy, unspecified	1	0	1																		1
Encephalitis, myelitis and encephalomyelitis,	1	1	0													1					

CAUSES OF DISEASES	TOTAL			<1		'1-4		'5-14		'15-24		'25-34		'35-44		'45-54		'55-64		'65-74	
	BOTH	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
unspecified																					
Epilepsy, unspecified, without mention of intractable epilepsy	1	0	1																		
Hemiplegia, unspecified	1	1	0																	1	
Intracranial abscess and granuloma	1	0	1																		
Intraspinal abscess and granuloma	1	1	0																		
Meningitis, unspecified	2	0	2																		
Other postprocedural disorders of nervous system	1	1	0															1			
Other sleep apnoea	1	0	1																1		
Paralytic syndrome, unspecified	1	1	0																		
Diseases of the respiratory system	48	19	29	0	0	0	0	0	0	1	1	3	0	2	1	1	5	3	4	1	4
Adult respiratory distress syndrome	2	1	1												1						
Asthma, unspecified	3	1	2							1							1				
Bronchopneumonia, unspecified	5	3	2								1	1					1				
Chronic obstructive pulmonary disease with acute exacerbation, unspecified	1	0	1																		
Chronic obstructive pulmonary disease with acute lower respiratory infection	2	0	2																1		
Chronic obstructive pulmonary disease, unspecified	7	0	7														1		2		1
Hypostatic pneumonia, unspecified	6	3	3									1					1	1			
Lobar pneumonia, unspecified	1	0	1																		1
Pleural effusion, not elsewhere classified	1	1	0											1							
Pneumonia, unspecified	4	2	2																	1	1
Pneumonitis due to food and vomit	4	3	1									1									
Pneumothorax, unspecified	1	0	1																		1
Predominantly allergic asthma	1	0	1																		
Pulmonary oedema	2	2	0											1							
Respiratory failure, unspecified	1	0	1																		

CAUSES OF DISEASES	TOTAL			<1		'1-4		'5-14		'15-24		'25-34		'35-44		'45-54		'55-64		'65-74	
	BOTH	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Retropharyngeal and parapharyngeal abscess	1	1	0															1			
Status asthmaticus	5	2	3													1	1	1	1		
Unspecified acute lower respiratory infection	1	0	1																		
Diseases of the skin and subcutaneous tissue	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Cellulitis of upper limb	1	0	1																		1
Pityriasis rosea	1	0	1																		
Endocrine, nutritional and metabolic diseases	37	20	17	0	0	0	0	1	0	0	0	0	1	1	2	2	3	6	5	6	2
Hyperosmolality and hypernatraemia	1	0	1														1				
Impaired glucose regulation with peripheral angiopathy	1	1	0																		
Insulin-dependent diabetes mellitus with coma, not stated as uncontrolled	1	1	0																		
Non-insulin-dependent diabetes mellitus with other specified complications, not stated as uncontrolled	1	0	1															1			
Non-insulin-dependent diabetes mellitus with unspecified complications, not stated as uncontrolled	1	0	1																		1
Non-insulin-dependent diabetes mellitus without complications, not stated as uncontrolled	15	7	8												2			3	3	3	
Type 2 diabetes mellitus with advanced renal disease	4	3	1											1		1	1	1			
Type 2 diabetes mellitus with features of insulin resistance	2	0	2														1				
Type 2 diabetes mellitus with foot ulcer due to multiple causes	3	2	1										1					1		1	
Type 2 diabetes mellitus with other specified renal complication	1	0	1																		1
Type 2 diabetes mellitus with poor control	1	1	0															1			
Unspecified diabetes mellitus with poor control	1	1	0					1													
Unspecified diabetes mellitus without complications, not stated as uncontrolled	3	3	0													1				1	
Unspecified protein-energy malnutrition	2	1	1																1	1	
External Causes of Morbidity and Mortality	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0

CAUSES OF DISEASES	TOTAL			<1		'1-4		'5-14		'15-24		'25-34		'35-44		'45-54		'55-64		'65-74	
	BOTH	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Unspecified transport accident, unspecified place, during unspecified activity	1	0	1															1			
Injury, poisoning and certain other consequences of external causes	16	4	12	0	0	0	0	0	0	0	0	0	0	0	0	4	7	0	5	0	0
Asphyxiation	2	0	2															2			
Contusion and haematoma of lung	1	0	1														1				
Drowning and nonfatal submersion	2	0	2															2			
Ethanol	1	0	1														1				
Foreign body in respiratory tract, part unspecified	1	0	1														1				
Foreign body in stomach	1	0	1														1				
Fracture of neck, part unspecified	1	1	0													1					
Functional spinal cord injury, cervical level unspecified	1	0	1														1				
Injury of cervical spinal cord, unspecified	1	0	1														1				
Other effects of decompression and barotrauma	1	0	1															1			
Unspecified effects of radiation	1	1	0													1					
Unspecified injury of ankle and foot	1	0	1														1				
Unspecified injury of head	2	2	0													2					
Mental and behavioural disorders	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
Mental and behavioural disorders due to use of opioids, unspecified mental and behavioural disorder	1	1	0															1			
Unspecified dementia	1	0	1														1				
Neoplasms	102	45	57	0	0	1	1	1	1	1	0	1	1	0	4	4	9	8	11	15	13
Acute lymphoblastic leukaemia, without mention of remission	1	0	1												1						
Acute myeloid leukaemia, without mention of remission	2	0	2														1		1		
Benign neoplasm of prostate	1	0	1																		1
Hodgkin disease, unspecified	1	1	0																		
Leukaemia, unspecified, without mention of remission	1	1	0																	1	

CAUSES OF DISEASES	TOTAL			<1		'1-4		'5-14		'15-24		'25-34		'35-44		'45-54		'55-64		'65-74	
	BOTH	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Liver cell carcinoma	9	3	6															1	1	3	
Lobular carcinoma in situ of breast	1	1	0																		
Malignant neoplasm of breast, unspecified part	9	8	1							1						1		2		4	
Malignant neoplasm of bronchus or lung, unspecified	13	2	11			1											4		1		2
Malignant neoplasm of caecum	1	0	1															1			
Malignant neoplasm of cervix uteri, unspecified	1	1	0																	1	
Malignant neoplasm of colon, unspecified part	1	1	0																		
Malignant neoplasm of extrahepatic bile duct	1	1	0																		
Malignant neoplasm of head, face and neck	1	1	0																	1	
Malignant neoplasm of ill-defined sites within the digestive system	1	0	1																		
Malignant neoplasm of kidney, except renal pelvis	1	0	1															1			
Malignant neoplasm of liver, unspecified	5	0	5					1										1			1
Malignant neoplasm of maxillofacial bones	1	0	1											1							
Malignant neoplasm of ovary	2	2	0													1				1	
Malignant neoplasm of prostate	8	1	7											2		1		1	2		1
Malignant neoplasm of rectosigmoid junction	1	0	1									1									
Malignant neoplasm of skin of trunk	1	0	1																		1
Malignant neoplasm of stomach, unspecified	9	4	5			1										1	1	1	1	1	1
Malignant neoplasm of tongue, unspecified	1	0	1															1			
Malignant neoplasm of uterus, part unspecified	4	4	0													1		1		2	
Malignant neoplasm of vertebral column	1	1	0																		
Malignant neoplasm of Waldeyer ring	1	0	1																		1
Malignant neoplasm without specification of site	2	1	1																		
Malignant neoplasms of independent (primary) multiple sites	12	9	3					1				1						3	1	2	
Other benign neoplasms of connective and other soft tissue, unspecified	1	0	1													1					
Secondary malignant neoplasm of bone and bone	1	0	1																		1

CAUSES OF DISEASES	TOTAL			<1		'1-4		'5-14		'15-24		'25-34		'35-44		'45-54		'55-64		'65-74	
	BOTH	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
marrow																					
Secondary malignant neoplasm of breast	2	2	0																	1	
Secondary malignant neoplasm of genital organs	1	1	0																		
Secondary malignant neoplasm of kidney and renal pelvis	1	0	1														1				
Secondary malignant neoplasm of large intestine and rectum	1	0	1																		
Secondary malignant neoplasm of other and unspecified digestive organs	1	0	1																		
Secondary malignant neoplasm of pleura	1	0	1																		1
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	32	12	20	1	4	0	3	1	2	3	4	3	1	2	1	2	5	0	0	0	0
Cardiogenic shock	1	1	0											1							
Chest pain, unspecified	1	0	1				1														
Dyspnoea	2	0	2		2																
Haemorrhage, not elsewhere classified	1	1	0													1					
Hypovolaemic shock	1	1	0													1					
Instantaneous death	4	0	4														4				
Other ill-defined and unspecified causes of mortality	1	0	1														1				
Senility	21	9	12	1	2		2	1	2	3	4	3	1	1	1						
Unknown Causes of Death	148	61	87	7	6	1	0	0	1	0	1	0	0	1	4	1	5	9	13	15	24
Grand Total	656	256	400	23	19	3	6	4	5	6	11	7	8	13	24	30	56	37	62	57	84