

GOVERNMENT OF TONGA



REPORT

of the

MINISTER

of

Health

for the year

2006

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1. ORGANISATIONAL OBJECTIVES AND FUNCTIONS

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

1.1. Strategic Directions

The Ministry's **VISION** for the future is "MAKING A DIFFERENCE" and "CORE PURPOSE is,

To respond effectively to the health needs of the Tongan people by providing the appropriate range and level of high quality health services and being accountable for the outcomes of these services.

The Ministry's **CORE VALUES** are,

- Commitment to quality care
- Professionalism and accountability
- Care and compassion
- Commitment to education and training

The Ministry's **DARING GOAL** is,

To be the healthiest nation in the Pacific Rim as judged by international standards and determinants.

1.2. Strategic Key Result Areas And Goals

1.2.1. Healthy Communities and Populations through improved services

- Prevent or delay the onset of cardiovascular disease and diabetes, and to reduce complications and improve the quality of life through health promotion and improved management.
- Improve mental health services by improving the management of chronic psychiatric patients in the community and decrease the number of re-admissions.
- Decrease motor vehicle injuries and emergencies in Tonga and improve the services available to manage them.
- Improve the health of the Tongan people by ensuring equitable access to, and rational use of, safe and effective drugs of good quality.
- Reduce the incidence of dental decay in Tonga.
- Clearly identify existing cancer cases and increase the early detection of cancer in Tonga.
- Extend and develop general and specialised health promotion services.
- Develop strategies to prevent substance abuse.
- Support child and adolescent health and development.
- Combat communicable diseases with a focus on HIV/AIDS, Tuberculosis, and Filariasis.
- Develop community health services by gaining community support for the health centres and developing a team approach.
- Support services development in the island hospitals.
- Develop clinical services through improved clinical care and staffing.

1.2.2. Health Sector Development

- Significantly improve the efficiency and effectiveness of management systems and processes.
- Provide the Tonga health system with an efficient and effective financial management system.
- Provide the Tongan health system with improved facilities and equipment and to maintain these well.
- Strengthen informed decision making within the Ministry of Health through the provision of appropriate information management.

1.2.3. Staff Training and Development

- Improve and strengthen workforce management and development.
- Continue to organise formal education, and in service training programs for staff.
- Prioritise training needs.
- Develop workforce planning processes.

1.2.4. Service Partnerships

- Work with Non Government Organisations, communities, other Government departments and donor organisations to implement these priorities.

1.3. Programme Objectives and Mission Statement

Operationally the Ministry mirrors the budget structure to facilitate programme evaluation and consists of six programmes,

1. Leadership, policy advice and programme administration
2. Preventative health care services
3. Curative health care services
4. Dental services
5. Nursing services
6. Health planning and information services

1.3.1. Programme 1: Leadership, policy advice and programme administration

Programme Objectives and Mission Statement: To provide efficient and effective support services to the Ministry and all health districts with regard to administration, human resources and financial management, transport and communication services.

1.3.2. Programme 2: Preventative health services

Programme Objectives and Mission Statement: To help the people in Tonga to achieve the highest attainable level of health as defined by World Health Organisation's constitution as "a state of complete physical, mental and social well-being and not merely the absence of infirmity", by:

- Significantly reduce morbidity and mortality due to infectious diseases.
- Provide environmental health services which result in a healthier community due to improved regulation, monitoring and health promotion activities.
- Assisting all health providers in the promotion of health through their respective areas of care and to empower the public at large in looking after their own health.
- Providing effective services to the health of mothers, children and others through a reproductive health strategic approach extending community health services to the people who need our services the most.

1.3.3. Programme 3: Curative health services

Programme Objectives and Mission Statement: To be able to provide the best possible care for patients, to prioritise areas that need change and to use the available resources in the most appropriate and effective way.

1.3.4. Programme 4: Dental services

Programme Objectives and Mission Statement: To respond effectively to the oral health needs of the people of Tonga by providing preventive and curative oral health programmes, information and services and be responsible for its outcomes.

1.3.5. Programme 5: Nursing services

Programme Objectives and Mission Statement: To contribute to the health of the national through the provision of the best possible nursing care services.

1.3.6. Programme 6: Health Planning and Information services

Programme Objectives and Mission Statement: 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.

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

- Tobacco Act 2001/Tobacco Control (Amendment) Act 2004
- Public Health Act 1992
- Mental Health Amendment Act 2001
- Health Practitioners Registration Act 1991
- Health Services Act 1991
- Garbage Act 1945

2. HEALTH ADMINISTRATION AND MANAGEMENT

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

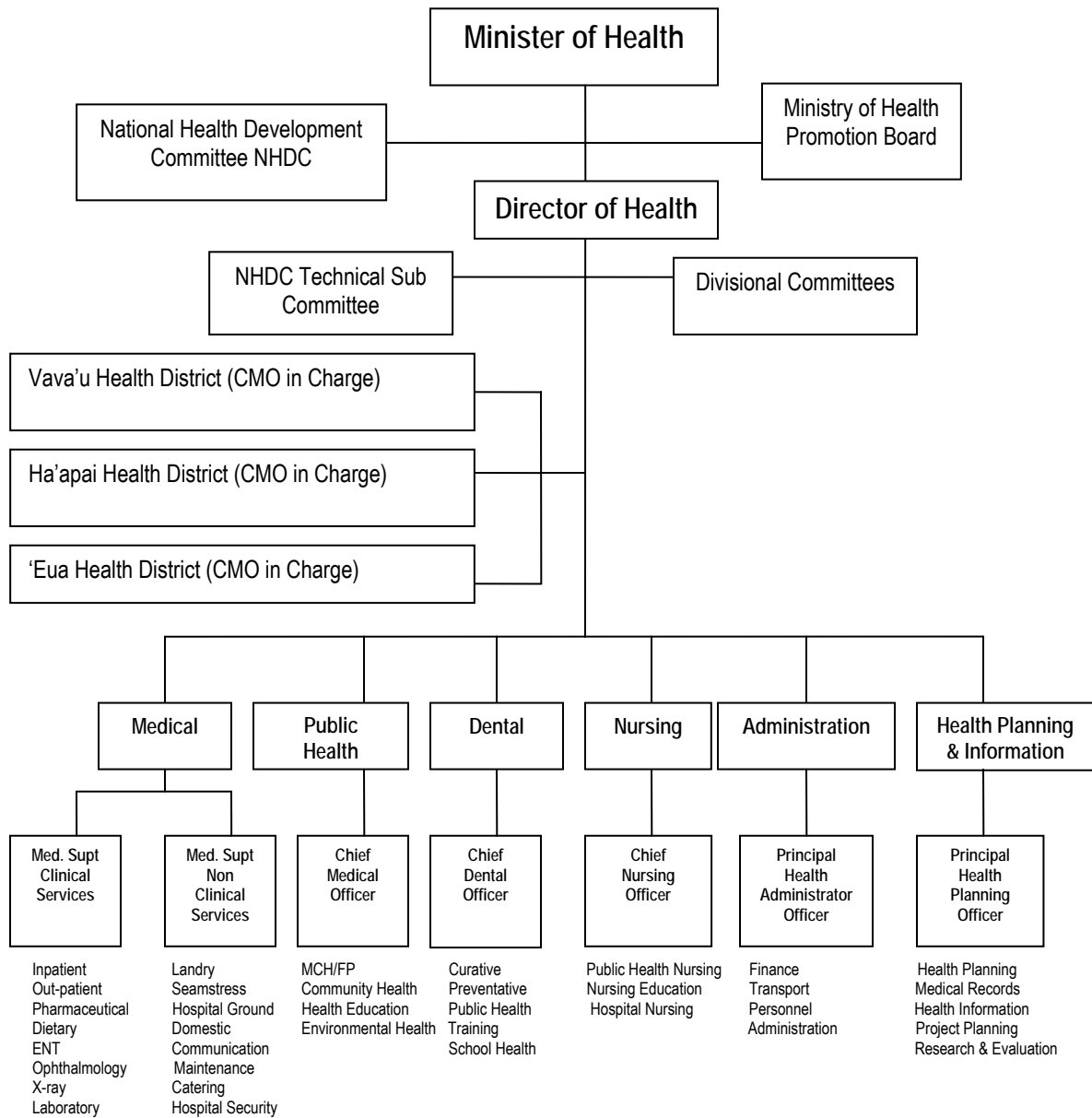
Divisional heads are responsible to the Director of Health for the implementation of each Division's services.

2.1. Ministry of Health Executive

As of 31 December 2006 the following officers were responsible for the administration and management of the Ministry and its respective Divisions.

Deputy Prime Minister and Minister of Health	Hon. Dr Viliami Ta'u Tangi
Head of Department	Dr Litili 'Ofanoa Director of Health
Administration	Mr Tu'akoi 'Ahio Principal Health Administrator
Dental	Dr Sililo Tomiki Acting Chief Dental Officer
Health Planning and Information	Mr Taniela Sunia Soakai Principal Health Planning Officer
Medical Superintendent	Dr Siale 'Akau'ola Medical Superintendent, Clinical Services
Medical Superintendent	Dr 'Akanesi Makakaufaki Medical Superintendent, Support Services
Nursing	Ms 'Amelia Lata Malu Chief Nursing Officer
Public Health	Dr Malakai 'Ake Chief Medical Officer, Public Health

2.2. Organization Structure



2.3. District Hospitals

As of 31 December 2006 the following officers were responsible for the management of the outer island health districts.

Prince Ngu Hospital
Vava'u Health District

Dr Edgar 'Akau'ola
Chief Medical Officer

Niu'ui Hospital
Ha'apai Health District

Dr Lisiate 'Ulufonua
Acting Chief Medical Officer

Niu'eiki Hospital
'Eua Health District

Dr. 'Elenoa Matoto
Acting Chief Medical Officer

3. 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 2002 – 2006

INDICATOR		2006	2005	2004	2003	2002
1	Estimated Population ('000)	102.4	102.3	101.8	101.4	101.0
2	Annual Population growth	0.3	0.3	0.3	0.3	0.3
3	Percentage of Population less than 14 years	35**	35**	36**	36**	36**
	Percentage of population 65 years and over	6**	6**	6**	5.9**	5.8**
4	Percentage of urban population	36	36	36	36	36
5	Rate of natural increase	21.5	20.4	17.7	20.2	18.4***
6	Crude Birth Rate	26.5	25.7	23.8	26.2	24.2***
7	Crude Death Rate	5.0	5.3	6.1	5.8	5.8***
8	Maternal Mortality Rate (per 100,000)	110.5	227.8	82.3*	0	78.2*
9	Life Expectancy at Birth (combined)					
	Life Expectancy (Male)	70	70	70	70	70
	Life Expectancy (Female)	72	72	72	72	72
10	Infant Mortality Rate	10.7	11.8	15.7	12.8	9.8
11	Perinatal Mortality Rate (per 1,000 live births)	13.1	10.8	10.3	13.2	15.8
12	Total Health expenditure ('000)	20170	17021	13521	11765	10919
	Per Capita	196	166***	133***	116***	108***
	As a percentage of total recurrent budget	12.7	11.9***	11.8***	10.4***	11.1***
13	Health workforce					
	Medical Officers at post	57	45	41	42	32
	Health Officers at post	18	21	20	21	20
	Nursing and Midwifery at post	332	362	316	343	326
14	Percentage of population with safe water supply	97.5	97	94	97	97
15	Percentage of household with adequate sanitary facilities	97.2	97	90	94	94.7
16	Immunization coverage	99.1	99.5	99.6	98.5	97
17	Percentage of pregnant women immunized with tetanus toxoid 2	97.2	95.7	92	93	94.7
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	23.9	19.7	23	22.1	23.1
21	Percentage of pregnant women attending ante natal care	99	99	99	98.7	98.5
22	Percentage of deliveries conducted by trained personnel	98	96.1	98	97	95.1
23	Total Fertility Rate	4.1	3.4	3.8	3.4	3.3

* Maternal Mortality Rate has been calculated using standard formula (per 100,000 live births).

** Calculated based on the assumption fertility rates will decrease and life expectancy will increase overtime.

*** Amended from statistic published in 2001 and 2005 Annual Report.

The population of Tonga had increased from 101,000 to 102,400 between the five year period 2002-2006. The annual population growth has remained steady for the same period. Both the crude birth rate and the total fertility rate had also not changed substantially. The small numbers lend maternal mortality ratio to fluctuations but does not deviate the concern due to the maternal deaths of 2005 and 2006. Tonga has sustained a more than satisfactory infant mortality rate level and compares favourably to most developed countries at 10.7 in 2006. This has been attributed to various factors, including a high immunization coverage, infants attended by trained personnel and high access of the general population to health care facilities. The perinatal mortality rate on the other hand is high and the ministry is addressing likely situation.

The government had increased the percentage of the total recurrent budget allocated to health from 10.4% ((2003) to 12.7% (2006). There have been few changes in the size of the health workforce.

Immunization of pregnant mothers for tetanus (x2) is also high and although this fell to 81% in 2001, it rose to 97.2% in 2006.

The vast majority of women attend ante-natal care (99%) and deliveries conducted by trained personnel is also high at 98%.

Apart from admissions directly related to pregnancy and childbirth, diseases of the respiratory system remain the leading cause for admissions in the country. Cardiovascular Disease on the other hand is the leading cause of death in Tonga followed by cancer. These are discussed in detail below.

3.1. Life Expectancy

The projected life expectancy at birth in 2005 for females is 72 and 70 for males.

3.2. Projected Population

The results of the 1996 population census indicate the country's population was 97,784 and the projected population for Tonga for 2005 is 102,369 increasing to 103, 647 by 2008.

3.3. Morbidity (Vaiola Hospital)

Table 2 Ten Leading Causes of Admission to Vaiola Hospital – 2006

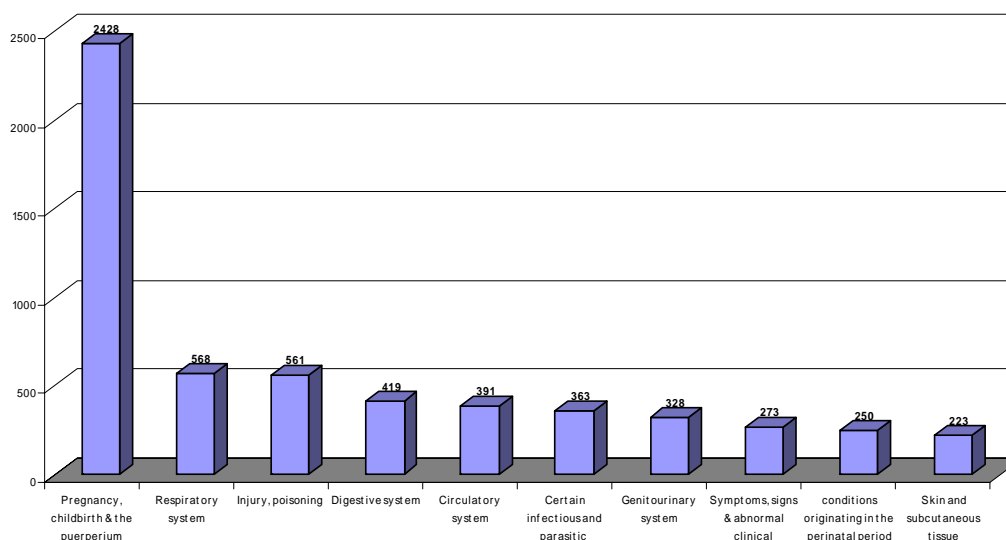
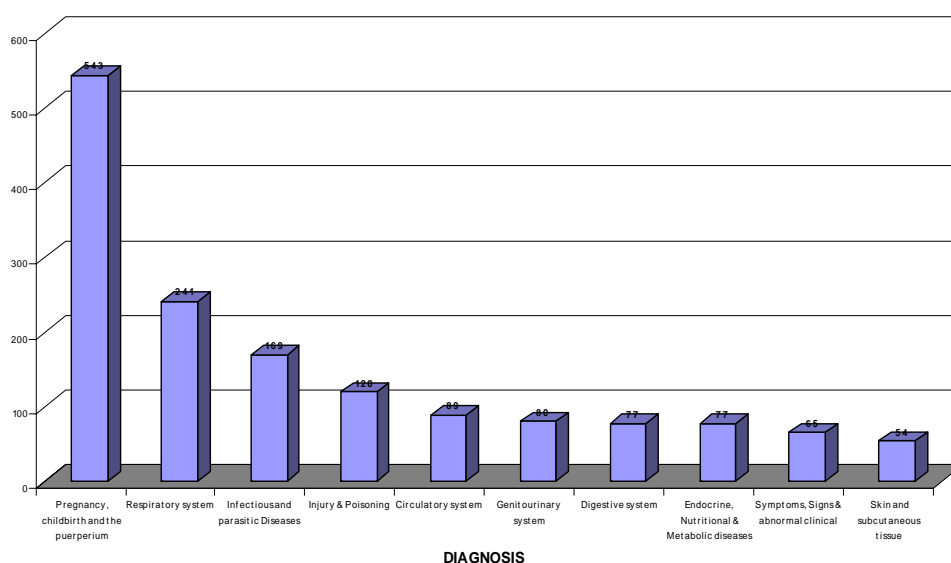


Table 3 Ten Leading Causes of Admission to Outer Island Hospital - 2006



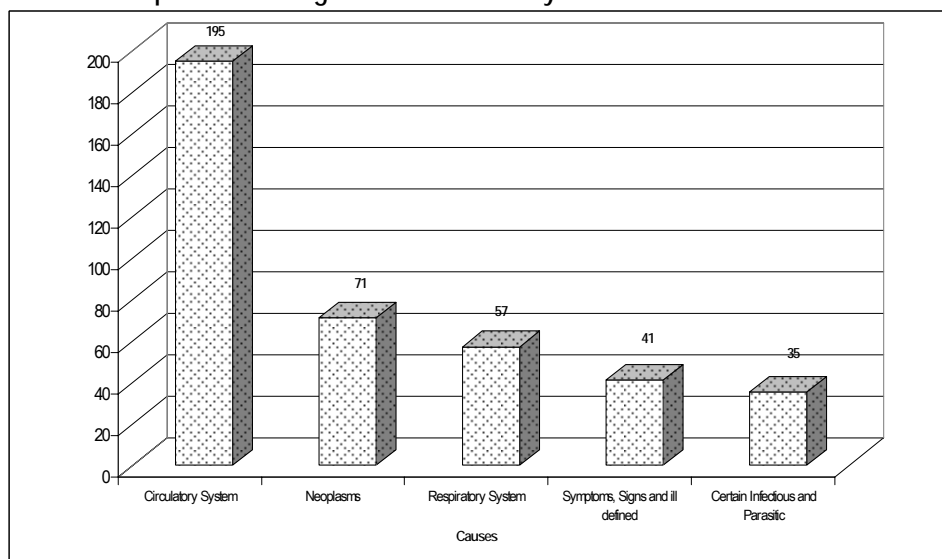
Diseases of the respiratory system was the leading cause for admissions in the country (both for Vaiola and the outer island hospitals). Admissions due to infections and parasitic related condition are relatively more common in the outer islands as the second leading cause of admission but ranked relatively low at fifth among Vaiola admissions.

In contrast, admissions due to injury while important in both Vaiola and outer islands, was higher at second (excluding non-disease admissions such as pregnancy and childbirth) among the Vaiola admissions (Table 2) as compared to the outer islands figures (Table 3).

The double burden of infectious diseases prevalence in addition to emerging lifestyle diseases such as cardiovascular and injury is apparent in this “mixed” epidemiological pattern demonstrates the limitation of a rigid epidemiological transition concept but more importantly the need to tailor disease control to disease evidence as reported rather than to perceived theoretical patterns.

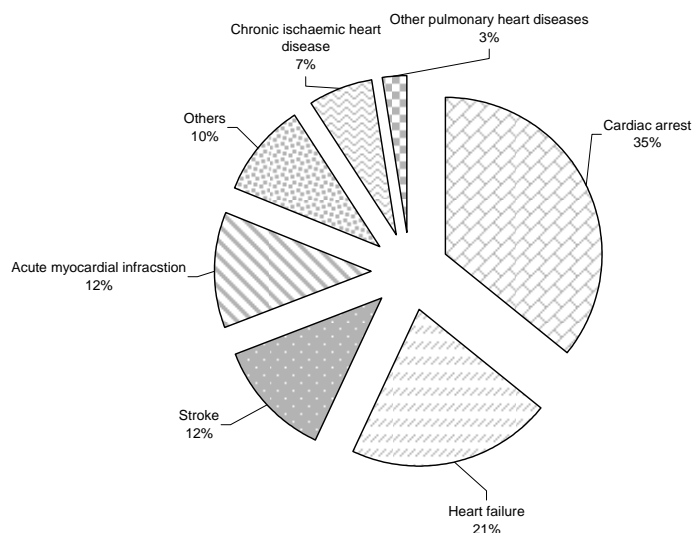
3.4. Mortality

Table 4 Reported Leading Causes of Mortality for 2006



The leading causes of mortality for the Kingdom has changed little over recent years and is dominated by diseases of the circulatory system. Almost half (48%) of these deaths are due to acute myocardial infarct or cardiac arrest, followed by heart failure (21%). Cardiovascular accidents (stroke) is also a major contributor to mortality with at least 25 (12%) deaths attributed to stroke in 2006.

Table 5 Causes of Circulatory Disease Deaths



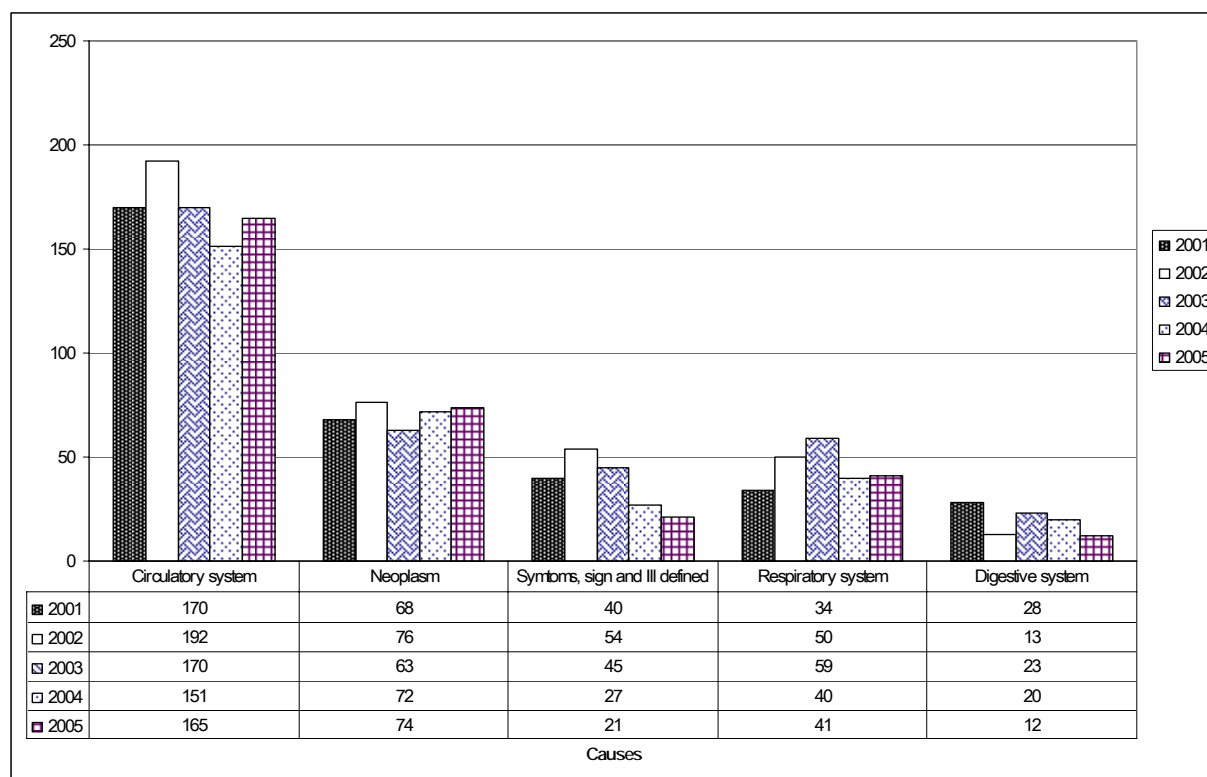
It is worth noting that in absolute numbers, these myocardial infarct/arrest deaths slightly outweigh deaths due to cancer (71) which ranks as the second leading cause of death for the Kingdom. The role of cancer as second leading cause of death has been sustained for at least 5 years now. Cancer of the breast is the leading cancer followed by cancers of the lung, liver and brain respectively among both male and female. Cancer of the prostate is the fourth leading cancer death among males. (Further details on cancer are discussed in the cancer section).

The importance of cardiac diseases and specifically cardiac arrest and stroke as well as neoplasm (cancer) in mortality testifies to common risk factors such as hypertension, smoking and obesity as prevalent elements in the Tongan population.

Diseases of the respiratory system ranking third displacing diseases endocrinal disorders which was ranked third in 2005 demonstrates the potential of respiratory diseases as public health priority coupled with its rank as the leading cause of admission to hospitals. The fourth and fifth leading cause of mortality encompasses a broad spectrum of conditions, symptoms and signs of abnormal findings not elsewhere classified and certain infections and parasitic diseases.

Of increasing importance are diseases associated with advancing age with senility being the leading cause of death among ill defined symptoms. The vast majority of deaths from "certain infections and parasitic diseases", twenty nine out of thirty five were due to staphylococcus. The disproportionate number of deaths due to circulatory diseases at 195 with the other five leading causes combined (204) speaks for itself in terms of burden and the need for urgent and effective control strategies to address cardiovascular diseases.

Table 6 Five Leading causes of mortality, 2001 - 2005



The major causes of mortality for Tonga has remained the same over recent years. As illustrated in Table 5 there has been very little variation in both cause and individual conditions' contribution to Tonga's mortality burden over the five year period 2001 to 2005. This mortality pattern is duplicated in 2006 as discussed under the leading causes of mortality for 2006. As Tonga's population gets older we expect associated age related mortality to express itself. Senility is the leading cause of death among the third leading cause of mortality in 2006. It is unlikely that the above trend would change significantly in the near future, and that circulatory diseases and cancer more than likely, remaining the major killers of Tonga's population.

In terms of control though, these two leading health categories/conditions not only share common aetiologies, be these upstream events such as socioeconomic factors or individual lifestyle causes they are similarly amendable to common control strategies such as socioeconomic environments and lifestyle approaches facilitating healthy choices and outcomes. The role of public health is both crucial and strongly advocated in this context by the ministry, as an immediate as well as a long term strategy.

4. HEALTH RESOURCES

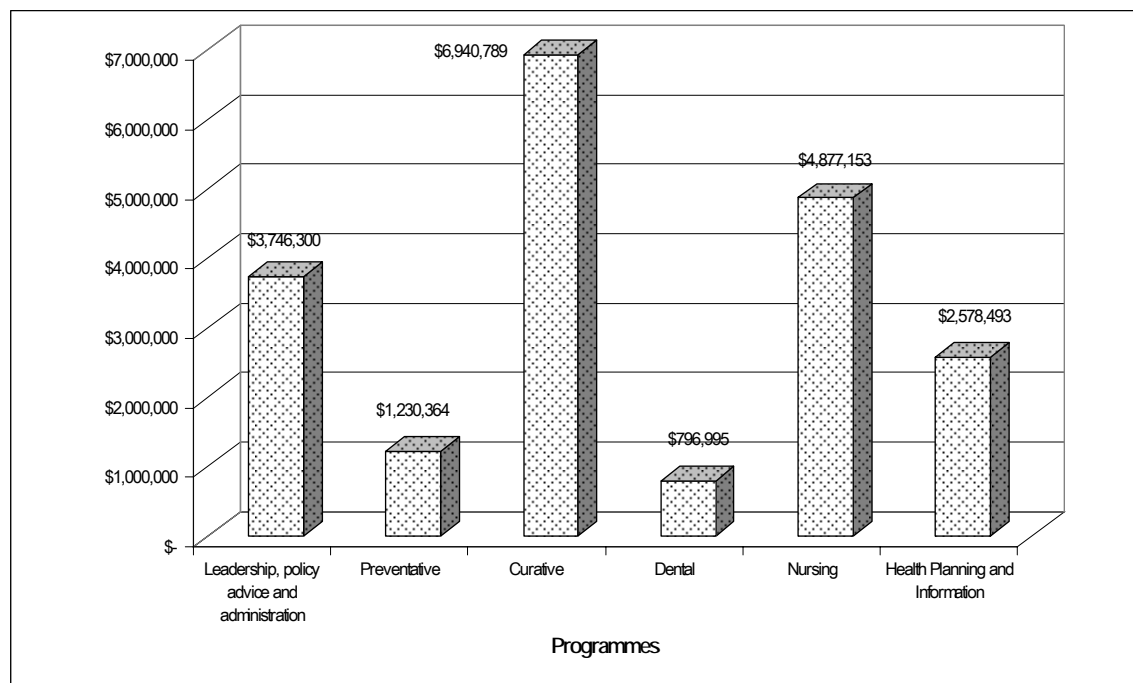
In proposing to Government the annual budget for the Ministry reports under four programme areas,

- Leadership, policy advice and programme administration
- Preventative health care services
- Curative health care services
- Dental services
- Nursing services
- Health Planning and Information services

4.1. Financial Resources

The total recurrent allocation for the Ministry for the 2005-2006 financial year was \$14,845,283.00 with an estimated expenditure per head of \$145. The allocation to health represents 10.4 percent of government's total budget. Budget details can be found in Appendix 2 and 3.

Table 7 Ministry of Health Estimates 2006-2007



4.2 Human Resources for Health

Table 8 Officials and Personnel of the Ministry of Health by Post, 2002-2006

POST	2006		2005		2004		2003		2002	
	Est Post	Post Filled	Est Post	Post Filled	Est Post	Post Filled	Est Post	Post Filled	Est Post	Post Filled
Hon. Minister of Health	1	1	1	1	1	1	1	1	1	1
Administration	9	5	9	7	8	6	8	5	8	6
Medical Staff	100	80	103	75	83	63	85	65	88	66
Dental Staff	52	40	53	43	45	41	46	43	52	37
Nursing Staff	425	325	421	362	400	315	380	342	385	325
Technical Staff	162	115	158	121	161	130	164	132	166	113
Accounting and Clerical	58	42	57	47	51	47	50	44	47	43
Supervisory and Domestic	181	137	169	154	193	177	196	160	186	122
Total	988	745	971	810	942	780	930	792	933	713

The most important resource any organization has, is its human resource. The Ministry had 1011 established posts by end of 2006. 746 posts were filled and 265 were vacant. By July 1st, 2006, 66 of the post holders took voluntary redundancy and their posts were removed permanently. In total, 945 posts remained with the same vacant posts. Of these vacancies 49 critical posts were identified to be filled immediately to ensure the efficiency of service delivery is further improved.

The Ministry has established a 'Learning Organisation' Culture where formal qualification are pursued both locally and abroad to contribute to the professionalism of service. Short term training is also secured both

through overseas attachments and local provision where key areas of service are identified including, customer service, management and specific technical area.

With the assistance of the AusAID funded Tonga Health Sector Planning and Management Project, the Ministry has also developed a 7-step Organisational strategy to address key areas that will positively move forward the organization and the 'can do' culture which was initiated in 1999. This includes:

- Revisiting mission, vision and core values
- Revision of the services and functions of each divisions and sections for reallocation of roles and responsibilities and structural realignment.
- Monitoring and evaluating organizational performance
- Review of work pattern
- Revisiting succession planning
- Revisiting retention strategies
- Introduction of performance management

The Ministry of Health has also been able to revise its Human Resource and Training Manual thus implemented, in line with the Policy Manual to improve staff efficiency and effective control of all its resources. Continuous training is also provided to enhance staff morale through its Job Description Workshops, Budget Management and Development trainings and its Reporting Mechanisms.

To this effect, the Ministry has a better future outlook through the increased development of the internal capacity we are currently investing in. This will also ensure the sustainability of the organisation's professional and management capability.

4.3 Staff Promotions

In acknowledging academic achievements and outstanding performance the following staff members of the Ministry were promoted during the year.

Table 9 Staff Promotions for 2006

First Name	From	To	Effective Date	Public Service Commission Decision
Filipe Taufa	Medical Records Officer	Senior Hospital Executive Officer	27/1/06	PSCD.No.31 of 27/1/06
'Anaseini 'Alofi	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
'Ana Felemi	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
Tevita Fihaki	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
Leti Finau	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
Manava'o Fisi'ihoifa	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
Laumanu Huasia	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
Melaia Katoa	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
Sisi Kolo	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
Kuluveti Le'a'aemanu	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
Heleni Loni	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
Hola-ki-he- mo'ui Moimoi	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
Elizabe Irene Niulala	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
Falakika Pasikala	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
'Ilaisaane Peaua	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
Vai'asini Selsoni	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
Melemoni Takitaki	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
'Ofa Talanoa	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
Sosaia Vakasiuola	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06

Vuna Fune	Student Nurse	Staff Nurse Diplomates	7/2/06	PSCD.No.108 of 31/3/06
'Aleva Takau	Senior Dental Therapist	Dental Officer	2/12/05	PSCD.No.55 of 30/3/06
Sitaniselao Kisina	Senior Dental Technician	Dental Officer	3/1/06	PSCD.No.55 of 30/3/06
'Olivia Tu'ihalamaka	Health Administrator	Senior Health Administrator	1/7/06	PSCD.No.203 of 12/9/06
Sione Po'uliva'ati	Lab Technician Grade I	Asst Physiotherapist (laterally transferred)	1/7/06	PSCD.No.203 of 12/9/06
Viela Lokotui Tapa'atoutai	Assistant Lab Technician Grade II Trainee	Assistant Lab Technician Grade II	12/10/06	PSCD.No.232 of 12/10/06
'Aiona Ha'unga	Assistant Lab Technician Grade II Trainee	Assistant Lab Technician Grade II Trainee	12/10/06	PSCD.No.232 of 12/10/06
Mele Ve'a Fonua	Assistant Lab Technician Grade II Trainee	Assistant Lab Technician Grade II Trainee	12/10/06	PSCD.No.232 of 12/10/06
Falekakala Mila Tomu	Assistant Lab Technician Grade II Trainee	Assistant Lab Technician Grade II Trainee	12/10/06	PSCD.No.232 of 12/10/06

4.4 Staff Retirement

The Ministry acknowledges the dedicated service provided by the following officers who retired from the service during the year.

Table 10 Staff Retirement for 2006

Surname	Post	Effective Date	Public Service Commission Decision
'Itanoa Tupou	Domestic Supervisor	3/1/06	PSCD.No.50 of 27/1/06
Toutai Hala'eua	Security Officer	12/4/06	PSCD.No.96 of 30/3/06
Viliami Telefoni Latu	Chief Dental Officer	1/7/06	PSCD.No.152 of 21/6/06
'Amelia Lata Malu	Chief Nursing Officer	31/12/06	PSCD.No.206 of 12/9/06
Sisivaloa Fifita	Matron	31/12/06	PSCD.No.206 of 12/9/06
Filimone Lile	Driver	27/1/06	PSCD.No.33 of 27/1/06
Lea'aemako Tufuini	Wardmaid	30/3/06	PSCD.No.67 of 30/3/06
'Ana Fili Havea	PH Sister Graduate	30/3/06	PSCD.No.68 of 30/3/06
Ta'e'iloa Lupeni	Driver	30/3/06	PSCD.No.69 of 30/3/06
'Amelia Moeaki	Health Registry Recorder	17/11/06	PSCD.No.246 of 16/11/06
'Ofa Filiai	Psychiatric Assistant	5/12/06	PSCD.No.251 of 5/12/06

4.5 Staff Appointment

Through its ongoing staff development, training and services requirements the following officers were appointed to the Ministry during the year.

Table 11 New Appointment for 2006

Name	Post	Effective Date	Public Service Commission Decision
Viliami Funaki	Health Officer	16/01/2006	PSCD.No.3 of 12/1/06
'Ahinoame Vaha'i	Medical Officer	4/1/06	PSCD.No.21 of 27/1/06
Loutoa Finau	Medical Officer	4/1/06	PSCD.No.21 of 27/1/06
Alamea Aleipata 'o Fonuamotu Fulivai	Medical Officer	23/1/06	PSCD.No.57 of 31/3/06
Tipinio 'Ali	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Sipulina 'Alofaki	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Suliana Fevaleaki	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Tali Hafoka	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06

Tupou Hapa	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Salini Hausia	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
'Alani Havili	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Poasi Hungalu	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Lopasi Ikahihifo	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Fatongiaola 'Ilai	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Kalisi Kakuleni	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Talamasina Kaufana	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Malupo Leakona	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Taulangovaka Liava'a	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Manu Lutui	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Seini Ma'ake	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Penisimani Manufekai	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Tui'one Matui	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Teisa Mila	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Tonga Moala	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Jenny Niukapu	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Penisimani Pau	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Melemoli Siale	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Loloma Sikuea	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Ane Petiola Siua	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Mele Tohotoa	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Silipa Tomiki	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Favava'u Tonga	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Susitina Tu'ipulotu	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
'Ofa Tukuafu	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Sione Vaha'i	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Sione Vainikolo	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Hene Vaka	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Malia Vaka'uta	Student Nurse	1/4/06	PSCD.No.108 of 31/3/06
Uikelotu 'Elone	Staff Nurse Diplomates	1/4/06	PSCD.No.108 of 31/3/06
Dr 'Emeline Fonua	Medical Officer	1/4/06	PSCD.No.119 of 9/5/06
'Emeli Tupou	Junior Medical Recorder	1/4/06	PSCD.No.215 of 12/9/06
Lesieli Malua	Junior Medical Recorder	1/4/06	PSCD.No.215 of 12/9/06
Salote Liava'a	Junior Medical Recorder	1/4/06	PSCD.No.215 of 12/9/06
Puataukanave Mala'efo'ou	Junior Medical Recorder	1/4/06	PSCD.No.215 of 12/9/06
David Innes	Surgeon Specialist	1/4/06	PSCD.No.222 of 12/10/06

5. INTERNATIONAL COLLABORATION

5.1 International meetings attended by the Honourable Deputy Prime Minister and Minister of Health.

The Minister of Health, Hon. Dr Viliami Ta'u Tangi attended the following international meetings and conference during the year.

- Extraordinary meeting of the programme budget and administration committee of the WHO Executive Board, Geneva, Switzerland, 22-27/5/06.
- Programme Budget and Administration Committee, Geneva, Switzerland, 19/5/06.
- Meeting of the World Health Assembly and Executive Board, Geneva, Switzerland, 22-27/5/06.

5.2 International Collaborations

The Ministry throughout the year continued its collaboration with various international organisations in the following areas;

- The 2005-2006 WHO Detailed Programme Budget for Tonga
- The Medical Treatment Scheme under the New Zealand Governments Bilateral Aid Programme with Tonga
- The Twinning Programme with St. John of God Hospital, Ballarat, Victoria, Australia
- Diabetic Project with the Prince of Wales Hospital, New South Wales, Australia
- The World Bank Health Sector Support Project
- European Union Project
- Government of Japan Grant Aid Project for the Upgrading and Refurbishment of Vaiola Hospital

5.3 AusAID Funded Tonga Health Sector Planning and Management Project.

A Completion Phase of the Tonga Health Sector Planning and Management Project was approved by AusAID and commenced on the 22nd November 2005. The Completion Phase was designed as the final stage of what has developed into an eight year project. The completion phase consists of the provision of shorter term targeted technical assistance over a two year period and funding to enable the project to respond to emerging needs in the Ministry of Health. The goal of the Completion Phase of the Project is: "To build on and consolidate achievements to date in a way that will maximise sustainability".

A number of events occurred in Tonga during the year which had an impact on the Ministry of Health and implementation of planned project activities. These included the Government of Tonga's redundancy programme, the passing of His Majesty the King, the uncertainty surrounding the appointment of the CEO, and the riots that happened in November 2006.

As well as progressing implementation of planned activities, at the request of the Government of Tonga and with the approval of AusAID, the project also took a proactive role to help the ministry and its staff to respond effectively to its changing environment.

For example, assistance was given to help the MOH identify the impact of the restructure and redundancies and to reposition itself and refocus its downsized human resources on its core functions.

The project also provided guidance and strategic planning and was flexible and responsive to make sure the best possible outcomes were achieved for the benefit of the Ministry of Health.

Summary of Key Achievements during the Period

- Organisational Strategy developed to enable the MOH to respond effectively to its changing environment, and implementation underway.
- Management capability further improved as demonstrated through the application of better management practices.
- Participative management style further embedded.
- Staff attitudes improved; staff more positive, motivated and empowered, which resulted in greater commitment to the Ministry
- "Can do Culture" further embedded demonstrated by more staff accepting responsibility and taking the initiative to solve problems themselves.
- Improved customer service through greater awareness and understanding of the "internal customer" and better teamwork and communication throughout the MOH.
- Culture of performance management further embedded as demonstrated by greater compliance with Performance Management systems.

- Performance Management systems further aligned to Government of Tonga systems in order to engender sustainability.
- Pharmacy Information Management System (PIMS) fully embedded in the Central Pharmacy and Vaiola dispensary and extended into the inpatient dispensary at Vaiola Hospital and the Hospital in Vava'u.
- Realistic budget proposal prepared and submitted to MOF before the due date.

5.4 Tonga Health Sector Support Project.

The Tonga Health Sector Support Project, effective in February 2004, is funded under a World Bank Loan, IDA Credit Number 3814 0 – TON. The project was designed for a five year time period and for a World Bank credit of approximately US\$10.94 million with US\$1.4 million counterpart funding from the Government of Tonga.

Project Objective: The objective of the project is to support health reform in Tonga within the framework of its Corporate Plan by improving the capacity of the Ministry of Health to develop and implement health policy and to improve the functional and technical quality of health facilities.

During the mid term review of the Project, June/July 2006, it was found the Project's objective continues to align well with Tonga's health sector priorities and the Government policies. The Ministry of Health Corporate Plan 2005/06-2007/08 focuses on universal access to efficient, high quality and affordable health services through expanded revenue collection, improved management and outcome monitoring and improved infrastructure, equipment and maintenance. This is consistent with the Project focus of sustainable financing, improved sector management and monitoring and improved quality of Vaiola Hospital services as laid out in the development objective.

The project is comprised of the following components:

(i) Strengthening Health Care Financing: This component is reviewing, develop and implement policies which define the funding and overall allocation of resources to health services. In particular, it will strengthen the capacity of the Ministry of Health to identify approaches towards strengthening the financing of health care (including resource mobilization), improving the allocation of available resources, and developing an appropriate public-private partnership.

(ii) Improving the Health Information System: This component is assisting the Ministry of Health develop capacity and establish structures for Information Management and IT Management. It is anticipated that communication and access to management information in the Ministry of Health will be improved. It will implement and establish an appropriate integrated computerized information systems for patient care at Vaiola Hospital and develop a population-based information system. Capacity will be developed within the Ministry of Health to design, implement field and targeted facility based surveys and surveillance systems to collect data on a periodic and at hoc basis.

(iii) Upgrading of Health Infrastructure: The component will support first phase of the design and implementation of rehabilitation and facilities improvement at the Vaiola Hospital to overcome identified major deficiencies and to improve functional relationships an the overall operational efficiency of the hospital. These developments will be guided by the master plan for the hospital and will enhance the hospital's capacity to efficiently meet its future service obligations.



His Majesty King Taufa'ahu Tupou IV and the Royal Family – Opening Ceremony of the new hospital.



Her Royal Highness, Queen Halaevalu Mata'aho - Opening Ceremony of the new hospital.

Project Status: The implementation of each component is on schedule producing outputs relevant to the project's objectives. Disbursement is also on track with US\$11.92 million from the total credit of US\$12.38 million has been committed and disbursed.

Strengthening Health Care Financing:

- Two National Health Accounts (NHA) reports have been prepared and disseminated (for 2001/2002 and 2003/2004) under this subcomponent and Ministry of Health staff have received some training in the preparation of the NHA. The NHA reports are well-prepared and thorough.
- Initial stages of work have been done to prepare more accurate estimates of government expenditure on curative, preventive and primary health services. Improved estimates are needed for discussions within government of current resource allocations.
- Initial preparation for implementing the preferred policy option of increased reliance on user fees, including further analysis of issues related to equity (i.e. the development of a mechanism for granting fee exemptions) and of issues related to the implementation of increased fees (e.g. specifying a new fee schedule);
- Stakeholder analysis, consultations and political mapping focused on the preferred financing options is ongoing together with the review of legislation and regulations related to the preferred financing options.

Improving Health Information Systems:

- Implementation of the health information component has accelerated and an "information culture" is starting to take root at the Ministry of Health and Vaiola Hospital. The Ministry has focused significant efforts on improving data quality, information management processes and reporting procedures, and improving computer literacy of staff.
- Key achievements to date include revision of main information product of the Ministry of Health, the Annual Report, formalization of new live births certification procedures, finalized almost 200 Health Data Dictionary Terms, improvement of clinical data reporting, implementation of new databases and backup procedures
- Progress in development of ICT Infrastructure and human resources
- Development of a new Hospital Information Systems
- Development of a Non Communicable Disease secondary prevention strategy
- Improved medical records management

Upgrading of Health Infrastructure:

- Progress of civil works is according to plan and the quality of work is satisfactory.
- Package A (Psychiatric Ward, Future Laundry and Kitchen) was commissioned in January 2006 and staff are satisfied with the new facilities. Total cost for Package A was US\$3.623 million.

- Construction of Package B1(Operating theatres, Intensive Care Unit, Central Sterile Supply Department, Laboratory and X-Ray, Biomedical Engineering workshop, Obstetric ward including delivery suites and Special Care Nursery, Surgical Ward and Waste Treatment Plant), funded by JICA, was completed and medical equipment installed in February 2006. Commissioning took place in August 2006. Total cost for Package B1 was US\$9.743 million.
- Package B2 (Paediatrics, Medical and Isolation Wards), funded under the IDA Credit, is currently under construction and is schedule to be completed in November, 2007. Total cost for Package B2 is US\$5.599 million.
- The project has made good progress in the development of the estate management policy and improvement of hospital management
- Implementation of a health care waste management plan is currently ongoing.



Her Royal Highness, Queen Halaevalu Mata'aho unveiled the plaque of the new hospital.

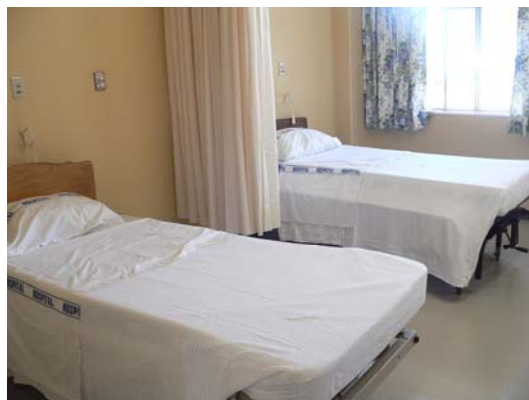


Her Royal Highness, Queen Halaevalu Mata'aho cutting the ribbon on the opening ceremony of the new hospital.





Surgical ward nurse station



2 bedded room, Obstetric ward



Special Care Nursery



X-ray equipment

6. HEALTH DISTRICTS

6.1 'Eua Health District

6.1.1. Management

Dr 'Elenoa Matoto, Acting Chief Medical Officer is responsible for managing Niu'eiki Hospital and the 'Eua health district and is supported by 1 Health Officer.

6.1.2. Objectives

The hospitals objectives are:

- To promote the "Healthy Island" concept in 'Eua.
- To improve maternal and child health services.
- To increase awareness of the people of 'Eua regarding non-communicable disease especially diabetes, hypertension and heart disease.
- To increase the rate of family planning usage in 'Eua.
- To improve the skills and knowledge of staff in order to provide quality care to the people of 'Eua.
- To maintain a high rate of childhood immunization coverage.
- To foster and improve relationship between the health sector and public.
- To increase community awareness and partnership programme.

6.1.3. Functions

The hospital's function is:

- To provide quality health care and to cater for the health needs of the people of 'Eua.

6.1.4. Nursing

Nursing Sister 'Ana Hausia is responsible for managing nursing services in 'Eua and is supported by 10 nursing staff.

6.1.5. Laboratory

Laboratory Technician Grade II, Mrs Lalamea Tu'ipulotu was responsible for managing and delivering laboratory services at Niu'eiki until July when she opted for the voluntary redundancy programme and was replaced by Laboratory Technician Grade II Mr. Filimone Fili.

All specimen are referred to Vaiola Hospital for analysis.

6.1.6. Dental

Senior Dental Therapist, Mr Sione Halahala is responsible for managing and delivering dental services in 'Eua. Services provided during the year includes oral examination, minor surgery, filling, tooth extraction, antenatal dental care and the school dental health programme

6.1.6.1. Objectives

The section's objectives are,

- To introduce medical records for patients rather than log book.
- To improve the process of ordering supplies.
- To update knowledge and skills of staff.
- To upgrade equipment and instrument in the department.
- To improve functioning of equipment and reduce breakdowns.
- To recruit 1 dental therapist or dental chairside assistant.

6.1.7. Environmental Health

Public Health Inspector Grade II, Mrs 'Amelia Vea is responsible for environmental health services and duties include village, retail and wholesale meat selling premises inspection, garbage and waste disposal.

6.1.7.1. Objectives

The section's objectives are,

- Upgrade healthy living standard of the island.
- Attend efficiently to all public complaints.
- 100% inspection of all food establishments.

6.1.8. Administrative Support

Junior Clerk, Mrs 'Unaloto Sateki is responsible for clerical and financial duties and daily paid Junior Medical Recorder Ms Puataukanave Mala'efo'ou is responsible for medical records services.

6.1.9. Auxiliary Staff

Niu'eiki Hospital employs the standard complement of non-clinical support staff which includes drivers, laundry, catering, domestic, Security, and grounds keepers.

6.1.10. Milestones

In delivering its services, the following were identified as milestones during the year,

- Transforming of the nurse's building into Antenatal and non-communicable disease's clinic.
- Upgraded of the kitchen by the 'Eua community residing in New Zealand.
- New ECG machine donated by the Hospital Board of Visitors.
- Transforming of old Antenatal Room into Clerks office.
- Two containers of medical equipment were donated by the 'Eua community residing in New Zealand.

6.2. Ha'apai Health District

6.2.1. Management

Health services in the Ha'apai group are provided through 1 Hospital (Niu'ui) at Pangai, 2 Health Centres and 3 Reproductive Health Clinics. Acting Chief Medical Officer Dr Lisiate 'Ulufonua is responsible for managing health services in Ha'apai and is supported by 2 Health Officers. There was a total of 38 staff working in Niu'ui Hospital during the year.

6.2.2. Objectives

The hospital's objectives are,

- To renovate the damaged Niu'ui Hospital infrastructure as directed by the Ministry and the Government of Tonga.
- To provide all essential and basic health service possible at its temporary site.
- To have consistent adequate posted manpower especially with medical personnels and nurses to enable carry out its functions efficiently.
- To maintain the regular outreach community campaign in reducing the incidence of common non-communicable morbidities of diabetes, hypertension and cardiovascular illnesses by 5% in the next ten years.
- To reactivate regular updated in service training for its clinical staff for more efficient service to the community.
- To maintain and upgrade the information and technical service within Niu'ui Hospital with regular liaising with the IT department at Vaiola Hospital.
- To maintain and support its ties with the Non Governmental Organization such as the Ha'apai Hospital Visitors Board.
- To provide its own boat suitable for its services to enable consistent outreach health service to all its population.

6.2.3. Functions

The hospital's functions are,

In light of the national health mission and its vision of "Making a Difference," the Ha'apai health district integrated it where appropriate with its population and setting. The Ha'apai Health District is directly accountable to the Director of Health.

- Preventative Health
 - Public health division at Niu'ui Hospital
 - Environmental Health
 - Lotofoa Health Centre
 - Kouvai Health Centre
 - 'Uiha Health Centre
 - Ha'afeva Health Centre
 - Nomuka Health Centre
- Curative Health Service
 - Essential and basic health service of outpatient & inpatient
 - Laboratory
 - Radiological
 - Pharmaceutical
- Dentistry
 - Preventive dentistry health service to the community
 - Curative oral care
- Co-ordinate patient referral to Vaiola Hospital
- Administrative management of its staff, assets, finances, development.
- Liaise closely with non government body such as the Ha'apai Hospital Board.

6.2.4. Financial Allocations

Niu'ui Hospital was allocated \$487,896 and was utilized for operation, maintenance and purchase of technical equipment.

Table 12 Population Data Summary of Ha'apai 2006

	Number	%
Total Households	1412	5.4
Total Women of CBA, 15-49yrs	1697	22.1
Total Adolescents Pop., 10-19yrs	1666	21.2
Total Children under 5 years	743	10.3
Total Infants: 0-1yrs	171	1.9
Total Live births during 12mth period	162	1.9
Crude Birth Rate	16.9 per 1000	
Total Population at this period	7515	
Net Population Growth %	1.66%	

Cardiovascular and Diabetic cases 2006

- Hypertension
 - * Known Case - 253
 - * Newly Diagnosed - 6 cases
- Type II Diabetes Mellitus alone
 - Known Case - 90
 - Newly Diagnosed - 7 cases
- Hypertension and Diabetes Mellitus
 - Known Cases - 162
- Total Number of People Attending Clinics

- 1405 people
- Total Number of Cases Admitted for Diabetes and Hypertension
 - Type II Diabetes – 11 admissions
 - Hypertension -- 13 admissions
- Total Number of Cases Treated at Home
 - 11 people
- Number of Amputations on Diabetic Cases
 - 1 Case

Table 13 Number of Outpatients at Niu'ui Hospital 2006

MONTH	NEW CASE	OLD CASE	TOTAL
January	81	1021	1102
February	54	905	959
March	72	908	980
April	43	1039	1082
May	98	902	1000
June	51	1136	1187
July	59	996	1055
August	50	895	945
September	71	1014	1085
October	59	1139	1198
November	83	1072	1155
December	112	830	942
TOTAL	833	11857	12690

Table 14 Number of Admission to Niu'ui Hospital 2006

Month	Number
January	27
February	26
March	23
April	14
May	10
June	11
July	15
August	26
September	15
October	16
November	12
December	8
TOTAL	203

Common causes of Admissions:

- Non Communicable Diseases (Diabetes, Hypertension, Cardiovascular)
- Pediatric Admissions of Infants and Ages 1-5yrs
- Acute Respiratory Infections and Acute Gastroenteritis
- Others (fish poisoning, trauma,)

Table 15 Antenatal coverage for Ha'apai 2006

	Numbers	ANC Coverage %
Total Number of Pregnancy Women	165	99.9%

Low ANC Coverage <6 clinics	27	19.9
High ANC Coverage >5 clinics	138	79.1

Table 16 Deliveries at Niu'ui 2006

Month	Number
January	4
February	13
March	12
April	19
May	5
June	8
July	8
August	10
September	5
October	12
November	6
December	3
TOTAL	105

Table 17 High risk pregnancies at Niu'ui Hospital 2006

Nature of High Risk Pregnancy	No. of Cases
Antepartum and Postpartum Hemorrhage	Nil
Pregnancy Induced Hypertension	Nil
Gestational Diabetes	1
Teenage Pregnancy < 19yrs	4
Elderly Mothers >36yrs	26
Too Frequent Births (<2 yrs)	33
Too Many Children (>4 ch)	41
Anemia in Pregnancy (<10g/dl)	13
Other Conditions eg heart	2
TOTAL	138

Table 18 Obstetric and Infant mortality 2006

Type of Death	Number
Number of Abortions, <28wks	1
No. of Stillbirths, > 28wks	1
Number of Perinatal Deaths, 28wks up to 7 days post delivery	2
Number of Neonatal Deaths, 0-4wks	2
No. of Infant Deaths 0-12months	6
Deaths in Children below 5 yrs	1
No. of Maternal Deaths	1
TOTAL	14

Table 19 Immunization coverage for Ha'apai 2006

Vaccination	No. of Children Immunized	Percentage Coverage (%)
BCG 1	143	100
Polio 1	140	100

Polio 2	132	100
Polio 3	119	100
HEP B 1	143	100
HEP B 2	137	99.9
HEP B 3	116	99.8
DPT/HIB 1	134	100
DPT/HIB 2	147	100
DPT/HIB 3	201	100
MR 1	153	100
MR 2	113	99.8
DPT 4	109	98.7

* The Lulunga Group is not included in this report

Table 20 Operation (minor & major) procedures for Niu'ui Hospital 2006

Caesarian Section	Tubal Ligation	Stitches	Circumcisions	Incisions & Drainages	Others
2	6	37	133	4	7

Table 21 Radiology performed in Niu'ui Hospital 2006

Number of Chest Radiography	
Investigation for Disease	50
Investigation for Diseases	3
Number of Abdomen Radiography	
General	5
Bone Radiography	
Extremities	38
Cervical Spine	4
Thoracic Spine	0
Lumbosacral Spine	1
Skull	3
Pelvis and Skull	7
TOTAL	113

Table 22 Laboratory test performed in Niu'ui Hospital 2006

Type of Test	Number
Total Number of Full Blood Count Taken	421
Total Number of Blood Transfusion	50
Total Number of Blood Cultures	38
Total Urine Specimen for Analysis	14
Total Stool Specimen	45
Total Urethral Swab	Nil
Total Vaginal Swab	1
Total RPR Tests	33
Total HIV Tests	37
Total HbsAg	41

Table 23 Dental Activities 2006

Type	Number
Exo Caries	480
Due Perio	279

Do Others	77
Dressings	261
Simple	22
Compound	18
Composite	8
Endodontic	Nil
Re-Cement	Nil
Antibiotic	132
X-Rays	1
Scaling	5
Polishing	2
OHI	113
Impaction	Nil
MOS	Nil
Post Treatment	Nil
Repair	Nil
Defer	77
Antenatal Booking Visits	128
Adult	1021
Children	299
Total Attendance	1345

Fluoride Rinsing Programm:

- Carried out twice a week to all Primary Schools of Lifuka and Foa Island (5 Government Primary School and 3 Church Schools)

Dental team visits:

- Two Japanese dental teams visited Ha'apai this year in which they carried out workshops to Ha'apai High Secondary School and gave out Tooth brushes to primary schools.

6.2.5. Information on Ha'apai Health Service:

- The main disease burden at the Ha'apai is the same nationally which is non-communicable diseases (Type II Diabetes Mellitus, Hypertension, Cardiovascular Diseases)
- There were six (6) infant deaths in a population of 171 Infants in Ha'apai which is a very high in comparison with national and international rates. The 6 health centers each had 1 each Infant Death with 2 at the Nomuka Health Centre.
- The commonest causes of paediatric admissions which is second to NCD is the acute respiratory illnesses and acute diarrhoeal diseases.
- One maternal death was recorded from Ha'apai, in which the mother was transferred to Vaiola Hospital who eventually died. The mother delivered her live born baby but died with no definite cause of death.
- Immunization percentage of all children in Ha'apai is still at an excellent standard with a 99-100% coverage. However, the Lulunga group still is the main difficulty for full coverage due to its location.
- There is a 99% antenatal coverage with 79% of high coverage (>5 clinics). The high risk groups identified are too many, too frequent deliveries and elderly mothers. Ha'apai has a high infant death rate and a maternal death one in each consecutive year.

Milestones

In delivering its services, the following were identified as milestones during the year,

- Two staff of Niu'ui Hospital unfortunately passed away while at service; Dr Sela Fatu (Senior Dental Officer) and Mr Sione Tu'ineau, long service security for Niu'ui Hospital died from an unexpected cause.

All Niu'ui Hospital mourned the death of their colleagues and the Hon Minister of Health attended to honor them.

- Niu'ui Hospital complex was partly damaged with wall and floor cracks from the 2006 earthquake which shook the whole nation. The nurses quarters was renovated and currently is the Niu'ui temporary hospital for the it was declared unsafe to continue at the damaged building.
- Approval of Building 4 New Staff by AUSAID and JICA was finalized and signed and to commence in 2007.
- Four staff members joined the government civil servant redundancy program and were farewelled by all staff for their dedicated service. This redundancy did not affect much of the general service to the public.

6.3. Vava'u Health District

6.3.1. Management

Chief Medical Officer Dr. Edgar 'Akau'ola was responsible for managing health services in the Vava'u District and was later replaced by Dr. 'Alani Tangitau as the Acting Chief Medical Officer in May, and is supported by 3 Medical Officers. Health services in Vava'u are provided through Prince Wellington Ngu Hospital at Neiafu and 4 Health Centres at Tefisi, Ta'anea, Falevai, and Hunga.

The primary responsibility of the Vava'u Health District is to improve the health of the people by promoting healthy lifestyle and prevent health problems, detecting and treating disease with available treatment.

6.3.2. Administration

First Class Clerk Ms. Sesili Tu'ifua, Computer Operator Grade II, Ms. Pelenatita Siasau and one daily paid clerk are responsible for this section. Prince Wellington Ngu Hospital 2006/2007 financial year constitutes 89% for salary alone, leaving the remaining 11% as the operation budget for the district hospital. As the Ministry strengthened its revenue collection, a Committee was established to review the monthly revenue collected and recommend ways of improvement.

6.3.3. Transport

Senior Driver Mr. Falanisi Foliaki is responsible for this section with the assistance from 2 other drivers.

6.3.4. Clinical Services

Dr. 'Edga 'Akau'ola was responsible for the provision of clinical services and later replaced by Dr. 'Alani Tangitau and was supported by Medical Officers, Dr. Siaki 'Ela Fakauka, Dr. Tupou Pua'a who was later replaced by Dr. Sione Pifeleti and Dr. Sepi Lopati.

6.3.5. Anaesthesia and Operating Theatre

- Nursing Sister Graduate 'Akesa Halatanu is responsible for the supervision and management of all nursing staffs. A total of 23 clinical nursing staff are assigned to Ngu Hospital.
- Sister 'Ilisapeti Kolopeakua who is responsible for managing public health nursing services and is supported by 9 public health nursing staff.

6.3.5.1. Objectives

- Ensure a continuous level of high standard anaesthetic services.
- Provide staff with adequate in-service education to enable them to maintain and expand their knowledge and skills required for competent practice.

- Provide a safe working environment.

6.3.5.2. Functions

- Provide a safe and high standard of anaesthetic services to patients undergoing operative procedures.
- Provide pre-anaesthetic and post-operative assessment and care of patients.
- Explaining to patients regarding theatre procedures both pre-op and post-operative so as to reduce anxiety that the patient may have concerning his/her sickness.

6.3.6. Emergency and General Outpatient

The General Outpatients (GOPD) is managed by 2 Medical Officers supported by 4 Staff Nurses. Other services provided at the GOPD are monthly benzathine injection for rheumatic heart disease patients, nebulizers for asthmatics and dressing for wounds.

6.3.6.1. Objectives

- Improve quality of services for patients seeking emergency and outpatient care.
- Provide on-going training for staff
- Improve relationships with other disciplines within the hospital

6.3.6.2. Function

- Provide in-hospital emergency and outpatient services.
- Provide pre-hospital emergency ambulance services.

6.3.7. Wards

There are 4 main wards, Medical, Surgical, Paediatric and Obstetric, which comprise 50 beds altogether. The Isolation Ward has been isolated for the last 5 years.

The total number of admissions was 1419 patients, an average of 118 patients admitted per month. There were 35 deaths in the wards, an average of 2 to 3 deaths per month.

6.3.8. Nursing

Senior Nurse Midwife, 'Akanesi 'Alava was responsible for managing this section until she took the voluntary redundancy in June and she was replaced by Tutor Sister Graduate, 'Akesa Halatanu before she was transferred to the Nursing School. Nursing Sister, Mele Havealeta took over in October and she is responsible for managing this section now.

6.3.8.1. Clinical Nursing

A total of 22 nurses work in this section, 4 at GOPD/Emergency, 2 in OT and the remaining 16 in the wards. One of the staff resigned during the year.

6.3.8.2. Objectives

- Improve and upgrade nursing staff's management.
- Upgrade standard of hospital nursing services.
- Review and provide policies and regulation for the improvement of staff performance.
- Upgrade nursing staff skills and knowledge.

6.3.8.3. Function

- Provide best quality nursing services to all patients.
- Implement therapeutic measures ordered by Medical Officers with intelligent application to patients..
- Co-operate with all hospital staff and services to facilitate and improve patient management.
- Support in-service and post-basic training of nurses.

6.3.8.4. Reproductive Health

This section was the most affected by the voluntary redundancy in June. 3 senior and experience staff from who joined the redundancy, which left only 2 staff nurses. By the end of December 2006 the section managed to increase its staffing to 6 staff including the Nurse Practitioner at Falevai Health Centre.

6.3.8.5. Objectives

- Develop skilled and committed staff to meet the evolving roles of public health nurses.
- Improve and upgrade staff performance
- Provide effective and quality reproductive health services to the people of Vava'u.
- Promote safe motherhood with continuing low mortality rates and high coverage levels of all services.
- Monitor good health and normal development among infants and under five years old children through good immunization coverage, good nutrition and good care management of childhood illnesses in the community.
- Promote and improve the rate of exclusive breast feeding babies at 4 months and 6 months.

6.3.8.6. Functions

- Provide effective and quality services to mothers, infants, children, adolescents and others through reproductive health strategies in Vava'u which are:-
 - Training of nurses with updated knowledge and skills in order to deal with daily activities.
 - Provision of quality antenatal and post-natal care to women with child bearing age throughout Vava'u.
 - Making family planning methods available to clients based on their individual choice.
 - Provision of immunization services to antenatal mothers, school children, under five years old children and infants as guided by the National Immunization Policy.

6.3.9. Dental

Dr. 'Afa Taulangovaka, Acting Senior Dental Officer, is responsible for the provision of the dental services supported by Mrs. Tupou Sikalu Tupou, Dental Therapist, and Mrs. 'Anaseini Lauti the Assistant Dental Chairside.

6.3.9.1. Objectives

- Reduce the incidence of dental caries and other oral health problems.
- Provide the best available treatment to the people of Vava'u seeking dental care with available resources.
- Create and maintain a working environment that is safe and productive to maintain the interest and motivation of staff.
- Use every problem identified as an opportunity for improvement.

6.3.9.2. Functions

- Prevent dental diseases.

- Promote oral health.
- Treat dental diseases.
- Provide curative and preventative dental care for the people of Vava'u.
- Ensure that the public of Vava'u has access to the best oral health care.

6.3.10. Clinical Support Services

6.3.10.1. Diabetic Centre

Dr. Sepi Lopati is responsible for managing this centre and is supported by 2 Senior Staff Nurses.

Objectives

- Prevent or delay the onset of complications caused by diabetes and cardiovascular diseases and improve their management hence ensuring a more productive and healthy population.
- Increase community-based detection and control of diabetes and cardiovascular disease.
- Establish and strengthen the management of diabetes and cardiovascular diseases and their complications
- Establish and strengthen appropriate epidemiological surveillance and monitoring of diabetes and cardiovascular disease and their risk factors
- Develop and implement integrated strategies for the prevention of diabetes and cardiovascular diseases, with emphasis on primary prevention and promotion of healthy lifestyles.

Functions

- Provide specialist care for all in-patients and out-patient diabetics in Vava'u
- Provide education and training for health workers on diabetes and NCD
- Serve as a referral centre for diabetes and cardiovascular diseases in the district of Vava'u.

6.3.10.2. Laboratory

Laboratory Technician Grade II Mr. Timote Fakasi'i'eiki and Mr. Tavite 'Eteaki 'Inia are responsible for the provision of laboratory services and supported by a Canadian volunteer Ms. Sandi Safton.

Objectives

- Provide quality laboratory services at all times.
- Promote staff development through continuous education and training.
- Provide a safe and productive working environment.
- Upgrade laboratory capability here in Vava'u.

Function

- Provide customers with high quality cost effective services in all aspects, and the standard of such services to comply with or exceed all accepted ethical and professional principles, as embodied in any accreditation criteria that may, at some time, apply in Tonga.

6.3.10.3. Pharmacy

Assistant Pharmacist Grade II Mr. Ma'u Tu'ineau, Mr. Petelo Manu and Mrs. Polonitina Tai are responsible for the provision of pharmaceutical and dispensing services.

Objectives

- To provide good quality, safe, effective, and affordable essential drugs to all the people of Vava'u and to ensure its rational use.

Functions

- To ensure the availability of safe, effective, affordable and good quality drugs for the people of Vava'u
- Ensure appropriate storage conditions are used and effective and timely distribution process is in place
- Ensure best pharmacy practice is adopted.

6.3.10.4. X-Ray

X-Ray Technician Grade II Mrs. 'Atomi Palu is responsible for the provision of x-ray services.

Objectives

- Provide good quality x-ray services at all times in order to assist the clinicians with their management.
- Ensure staff knowledge and skills are up to standard by providing ongoing on the job education at all time.

Function

- To provide radiological diagnostic services to the public and also to assist clinicians with their patient's management.

6.3.10.5. Central Sterilising Supply Department

Sterile Assistant Mrs. Petsy Lomu was responsible for managing this section and replaced later by Ms. Sina Vi at the end of the year.

Objectives

- Maintain quality standard of service at all times.
- Ensure standard sterile procedures are followed at all times.
- Ensure adequate supply of instrument and linen is maintained.

Function

- To provide sterile surgical instruments and linen for the operating theatre, wards, health centres and clinic in adequate supply at all times.

6.3.11. Health Planning and Information

6.3.11.1. Medical Record

Medical Recorder Ms. Kaliopeta Vainikolo is responsible for the provision of medical record services and is supported by Junior Medical Recorder Ms. Palaniketi Talia'uli.

Objectives

- To have a proper completed records.
- Ensure continuous training and development of Medical Records staff.
- Ensure a single record is created to each patient containing all Outpatient and Inpatient history.

Functions

- Ensure all medical record inpatient and outpatient needs are attended to.
- Ensure all admissions, transfer and separation procedures are completed and in order.
- Attend to all health care professionals' requests regarding patients' medical records.
- Issuing of death certificates.

6.3.12. Public Health

6.3.12.1. Environmental Health

Public Health Inspectors Grade 2, Mr. Leopino Fa'asolo and Mr. Manase Malua, are responsible for provision of environmental health services and are supported by 3 sanitation officers.

Objectives

- Reduce the incidence of communicable diseases in Vava'u.
- Upgrade and develop the village water supply systems.
- Improve management of environmental health activities.

Functions

- Provide adequate and high standard environmental health services to the public.
- Promote and implement improved access to safe water and food.
- Promote improved sanitation practices.

Communicable Disease

Dr. 'Alani Tangitau is responsible for this section and is supported by a Staff Nurse, Sivihiwa Latu. During the year, we had only 2 cases of Pulmonary TB and were on the DOTs programme, in whereby both completed the treatment course and recovered uneventfully.

6.3.13. Non-Clinical Support Services

6.3.13.1. Laundry

This section consists of 2 laundry maids and a daily paid staff. The main function of this section is to provide quality laundry and ironing for all hospital linen.

6.3.13.2. Domestic

This section consists of 5 Wards Maid, 4 Orderlies and 2 daily paid staff. The main function of this section is to provide quality, cleaning service to all areas of the hospital. They may also accommodate other small tasks for patient's needs while performing their duties in the wards.

Objectives

- Develop new cleaning procedures in order to upgrade the quality of the service.
- Purchase all the necessary equipment and facilities required by staff to produce best service.
- Closely monitor procurement in order to control cost.

6.3.13.3. Grounds-keeping

Mr. Keio Afu, daily paid staff is responsible for this section.

Objectives

- Maintain high quality grounds keeping service at all times.
- Coordinate the collection and disposing of waste with other staff and departments
- Landscaping is very much needed in order to develop the hospital compound to a state be fitting the new environment

Functions

- Ensure that the hospital ground is maintained at all times.
- Clean and pick up rubbish around the hospital compound and dispose it in a hygienic and sustainable manner.
- Maintain and develop flower gardens in the hospital compound to a high standard.

6.3.13.4. Catering Services

Mrs. Louani Vaokakala Fetokai Assistant Cook is responsible for this section and is supported by 3 Assistant Cooks and a daily paid staff. The main function of this section is to provide healthy and high quality meals for patients.

Objectives

- Ensure that patients' diets provided are of high quality and appropriate for their health needs.
- Ensure that all necessary equipment and facilities are provided.
- Identify training needs for staff that would further enhance performance and quality service.

6.3.13.5. Hospital Security

There are 3 staff providing this service with the help of a daily paid staff. Their main function is to provide security service to all hospital staff and all hospital facilities in the hospital compound.

Objectives

- Upgrade the standard of service provided especially in the management of visitors and patient attendants.
- Ensure safety and security of patients, staff and properties of the hospital.
- Educate public regarding the service procedures so that they can understand and cooperate with our staff.

Functions

- Provide engineering maintenance services for equipment and facilities.
- Perform minor alterations to facilities.
- Prepare proposals for improvement of equipment and facilities in Vava'u.

6.3.13.6. Maintenance

Mr Latuselua Tonga is responsible for this section and is supported by a daily paid staff.

Objectives

- To stock most vital spare parts.
- Improve monitoring of hospital equipment and facilities.
- Improve provision of medical gases.

6.3.14. Milestone

In delivering its services, the following were identified as milestones during the year,

- European Union funded the following;
 - 2 new vehicles.
 - Renovation of the operating theatre, pharmacy and the x-ray rooms.
 - Relocation of the emergency department.
 - Medical and office equipments for the support services.
 - Approved funding for a new laundry, sterile rooms and the relocation of the laboratory.
- Ballarat Rotary Clubs and Melbourne Fofu'anga Club upgraded and equipped the Dental Clinic in September and donated other equipment and cooking utensils.
- Free Wesleyan Church of Neiafu and other Churches donated food items.
- Vava'u Dive donated supply of oxygen cylinders.
- Friends of the Prince Ngu Hospital Board of Visitors installed the air conditions and donated the biochemistry analyser.
- Conducted the World TB Day and TB workshop facilitated by Dr. Louise Fonua and Mr. Saia Penitani.
- Prince Ngu Hospital Board of Visitors funded the installation of the mSupply.
- UNDP continued funding the community programme.
- PIP Ophthalmology Team visited Vava'u in July.
- General Surgical Team from Vaiola head by Dr. David Innes operated in Vava'u in 1 week.
- Initiation of tooth extraction under general anaesthesia for kids in theatre.
- Wound Care Workshop in September by Sr. 'Ana Kavaefi and Salote Schaumkel.
- AusAID Health Management Workshop by Mrs. 'Olivia Tu'ihalamaka and Rachael Brownhill.
- Nurse Midwife, Meliame Tupou, joined the Maternal Mortality Auditing workshop in Vaiola Hospital.
- Reproductive Health workshop on Emergencies in Obstetric for nurses.
- Dr. Tangitau and Midwife Meliame Tupou attended the Maternal Mortality Review workshop.
- Dr. 'Afa Taulangovaka attended 3 months attachment in Japan
- Health Promotion Team and the Ma'a Lahi Project visited Vava'u funded by the Westpac Bank of Tonga to run an aerobic competition for the first time. Walk for Health was also initiated and to be continued by the staff in Vava'u.
- PIP Eye Team visited Vava'u in July.
- Sandi Safton working in the lab as a volunteer for 2 years now.
- Ms. Jackie Kent conducted on- the-job training for the Medical Records staff.
- IT Section from Vaiola visited Vava'u twice.
- Public Health Inspector Grade II, Mr. Leopino Fa'asolo, attended a workshop in Nuku'alofa regarding the International Health Regulation draft report.
- Mr. Latuselu Tonga attended attachments in New Zealand and Australia.
- Mr. Sioeli Manu from Vaiola visited the hospital for servicing the dental equipment

6.4. Niuatoputapu Health District

6.4.1. Management

Medical Officer, Dr. Sepiuta Lopati was responsible for managing the Centre until July when HO Liliani Latukefu took over. HO Latukefu is supported by a Midwife, 1 Dental Therapist, 1 Senior Staff Nurse and 4 non clinical staff.

6.4.1.1. Objectives

The Centre's objectives are:

- To provide the best possible quality health care to all people of Niuatoputapu and Tafahi Islands with the available resources.
- To improve patient-care and staff performance.
- To increase community awareness regarding common non-communicable diseases.
- To improve patient competency in home care of acute diarrhoea and acute respiratory diseases.
- To establish effective patient referral procedure for Likamonu Health Centre.
- To strengthen community involvement in strategies to improve overall health.
- To have 100% coverage and follow up for anti-filariasis medications.

6.4.1.2. Functions

The Centre's functions are:

Clinical services

- Conduct outpatient consultation from Monday through Friday, after hours and weekends.
- Conduct clinics on Tuesday and Thursday and follow up of defaults.
- Conduct minor surgery and dressings.
- Conduct monthly visits to Tafahi for clinics/consultation and village inspection.

Public Health services

- Provide maternal and child health care delivery.
- Provide antenatal and postnatal care.
- Conduct family planning.
- Provide immunization.
- Conduct health promotion activities.
- Conduct regular health community visits.
- Conduct village and retail stores inspections.
- Clear sailing yachts.

6.4.2. Dispensary

Conduct pharmaceutical and dispensing services.

Table 24 Clinical services, 2006

	Total
Admissions	31
Patient referral	6
Deaths	2
Births	8
Diabetic	20
Hypertension	12
Diabetic and hypertension	9
Cardiac	6
DM/HTN/Cardiac	3
Minor surgeries (I&D, circumcision and lumpectomy)	78

6.4.3. Nursing services, 2006

Mrs. Taufu Mone and Mrs. Monika 'Uvea are responsible for clinical nursing services and assist with both inpatient and outpatient care.

Table 25 Immunization coverage

Condition	Percentage
Immunization coverage	92

Dental Services, 2006

Provide conservative treatment, extractions and tooth fillings.

Dental Therapist Nenase Latu is responsible for the conservative treatment, extractions and tooth fillings.

Table 26 Treatment, extractions and tooth fillings – 2006

Condition	Number
Patient examined and treated Adult – 209 Children – 62 Expected mothers - 20	225
Tooth fillings Permanent – 52 Temporary – 48	100
Tooth extractions	89

6.4.3.1. Milestones

In providing its services, the following were identified as milestones during the year,

- Dr. Sepiuta Lopati completed her 1 year posting in Niuatoputapu and departed for Tongatapu in June.
- The yachties donated first aid medications.
- Participate in a one day workshop on Family Planning conducted by Sr Afu Tei from Vaiola Hospital.
- Members of Parliament visited the centre in October.
- Filariasis team from Vaiola visited to follow-up positive cases.
- HO Liliani Latukefu attended the Balance Scorecard and Quarterly Reporting System workshop in Vava'u.

6.5. Niuafu'ou Health District

6.5.1. Management

Health Officer, Sione T. 'Ulufonua is responsible for managing health services in Niuafu'ou and is supported by 1 Public Health Nurse, 1 clinical nurse and 2 non clinical support staff.

6.5.1.1. Objectives

The centre's main objectives are:

- To improve the quality of inpatient services in the Island.
- To improve oral health.

- To improve the mother and child health by strengthening family planning method.
- To enforce public health act regarding cigarette smoking.
- To improve the source of electrical energy in the Island.
- To strengthen workers relationship and incentive.

6.5.1.2. Functions

The centre's functions are:

Curative

- Out patient and emergency.
- Special out patient clinic for hypertension and diabetic monthly.
- Antenatal care once a week.
- Postnatal care.
- Dental care and school visit.
- Home visit and follow up of cases.
- Immunization.

In Patient

- Admission of very ill patients and those who prefer admission.
- Admission of all delivery mother and baby.
- Referral of cases requiring further treatment and management.

Preventive

- Health education.
- Village inspection and sanitation.
- Retail store and food handler inspection.
- Village development committee.
- Youth development committee.
- Village and patient transfer fund committee.

6.5.1.3. Financial Allocations

Tu'akifalelei Health Centre was allocated \$33,538.00 and was utilized for operation, maintenance and purchase of technical equipment.

Table 27 Services provided for the people of Niuafo'ou in 2006

Conditions	Total
Consultations	1735
Viral Influenza	1320
Bronco Pneumonia	100
Bronchitis	35
Broncho Asthma	7
Infant Diarrhoea	2
Castro Enteritis	7
Diabetes	5
Hypertension	12
Heart Disease	2
Diabetic/Hypertension	7
Admissions	43
Referral to Vaiola	13
Numps	112

PIH	3
Gestational Diabetes	1

6.5.1.4. Milestones

In delivering its services, the following were identified as milestones during the year,

- New generator from the Ministry of Health was installed.
- Filariasis programme review after taking anti-filariasis treatment for 3 years were all negative.
- Establishment of Hospital Board Committee. This Committee includes all church leaders, 8 town officers, district officer, private sector, TDB, TCF, business owner and all civil servants.
- Host a week programme for Niuafo'ou Hospital Week.

7. PUBLIC HEALTH SERVICES

7.1. Management

Chief Medical Officer, Dr Malakai 'Ake is responsible for managing this Division and is supported by a Health Administrator. The Division consists of six sections, (Communicable Diseases, Reproductive Health, Community Health, Environmental Health, Health Promotion and Non Communicable Diseases).

7.2. Communicable Diseases

Medical Officer, Dr. Louise Fonua is responsible for managing this section and is supported by 1 Health Officer and 3 Public Health Assistants.

7.2.1. Objectives

The section's objective is:

- To reduce the incidence and prevalence of communicable diseases through implementation of strategies outline in many health care programs/projects, and through policy development and legislation to facilitate implementation of certain public health interventions.
- To maintain the high standard of provision of necessary services for visa applicants, employment recruits and food handlers at all times.
- To maintain the high level of cure rates of DOTS, and to improve the detection rate (10%) of current of pulmonary tuberculosis and screening of contacts.
- To improve surveillance of certain diseases especially the outbreak prone diseases like dengue, typhoid and influenza like illness.
- To collaborate more effectively with all stakeholders that provide services for STI including HIV/AIDS, in planning, implementation and monitoring of all strategies developed so far, and in accordance with the National Strategic Plan for Response to STI including HIV/AIDS.
- To ascertain proper management of all patients admitted to Isolation/Infectious Ward, or those that were being discharged and need to be followed up at home.
- To ensure the capacity of the staff are developed appropriately and to ensure a safe working environment, both for staffs and users of our services.

7.2.2. Functions

The section's functions are:

- Develop guidelines for prevention and control of outbreak prone diseases like dengue, influenza like illness (ILI), typhoid and others as situation arises.
- To develop treatment protocols as in STI syndromic case management flow charts.
- To manage the suspected/confirmed STI patients including tracing and treat all possible partner(s). Management implies on history taking, diagnosis, treatment, counselling including condom promotion, and follow up. The same approach applies to the identified contacts.
- To implement and monitor DOTS strategy as outlined in the Global Fund to fight AIDS, TB and Malaria proposal for Tonga.
- To continue management of the Isolation/Infectious Ward.
- Responsible for the processing of visa applicants, food handlers and employment recruits.
- To work closely with relevant clinicians in management of infectious disease index patients as well as contacts in the community eg. Meningococcal meningitis and typhoid.

7.2.3. Financial Allocation

The section was allocated \$5,969.00 and was utilized for purchase of technical equipment.

7.2.4. Milestones

In delivering its services, the following were identified as milestones during the year,

- Dr Louise Fonua joined the department in July 2006 after working in the medical ward.
- Dr Louise Fonua and Ms. Iemaima Havea represented Tonga to the Pacific Islands Regional Multi-County Coordinated Mechanism meeting held in Nadi, Fiji in October 2006.
- Dr Louise Fonua attended a one-week training workshop on Global Salmonella Surveillance in Suva, Fiji in October 2006.
- The section together with the health information department designed a new notification form for all diseases, which are deemed notifiable under the Public Health Act. A new communicable disease database is also under final testing before it is put out for formal use.
- The staff of this section attended a workshop on International health Regulations with Mr Andrew Forsythe from the World Health Organisation.

STI including HIV/AIDS Program

- A proposed behavioural STI and HIV survey was to be conducted amongst the military on 27th of November however; due to the events of 16th November it was postponed.
- World Aids Day this year was implemented in Vava'u due to the event of 16th November. Dr Fonua conducted workshops for high school students, the fakaleiti association of Vava'u, young single mothers and an advocacy meeting with the heads of various departments both NGO's and Governmental ones. A radio program was also carried out which involved active participation from the public.
- The unit continues to see cases that are sexually transmitted regardless whether they are referred from other departments or are seen directly at our outpatient clinic. It is unfortunate the laboratory is unable to diagnose Chlamydia, therefore treatment offered includes cover for chlamydia even though diagnosis cannot be confirmed.

Table 28 Confirmed curable sexually transmitted infections 2006

Age Group	Gonorrhoea			Trichomonas	
	Male	Female	Total	Male	Female
10-15	0	1	1	0	0
16-20	17	1	18	0	0
21-25	29	2	31	0	0

26-30	12	4	16	0	0
31-35	5	0	5	0	0
36-40	1	1	2	0	1
41-45	0	0	0	0	0
46-50	0	0	0	0	0
51-54	1	0	1	0	0
55-60	1	0	1	0	0
Sub-Total	66	9	75	0	1

Other confirmed STI: Candida - 2
 Chlamydia - 10

Note: This is obtained from the records of the Ministry of Health and Tonga Family Health and it does not include general practitioners and private pharmacies. We hope to collect more complete data in the future, as we will reinforce the completion of notifiable disease forms by all health practitioners.

TB-DOTS Program

- There are 4 DOTS Centres nationwide with Tongatapu being the main one and Vava'u, Ha'apai and 'Eua as supportive ones. The Niua's however are under consideration to be made DOTS centres in the near future since there have been positive cases from both Niua's over the years. The unit has established a TB coordinator for all the DOTS centers and they are mostly made up of nurses with the exception of Tongatapu.
- The Project continues its management of positive cases on an outpatient basis unless the patient is very sick or there are other underlying condition(s) that warrants admission.
- The DOTS program is offered every day, seven days a week.
- World TB Day this year was celebrated in Vava'u on the 24th March. Activities to mark the day included banners installed in strategic locations, a poster competition, T-Shirts were printed and distributed amongst the staff and a speech to commemorate the day was delivered by Dr Tupou Pua'a. There were other activities carried out in Tongatapu.
- According to WHO standard, Tonga still needs to improve its detection rate while cure rates needs to be maintained at 85% or higher. The TB drugs are provided through the recurrent budget of the Ministry of Health and there was adequate supply to treat all positive cases throughout the year.

Table 29 Newly diagnosed patients treated for TB, both as sputum positive or extrapulmonary

	Male	Female	Total
New Pulmonary smear positive	8	6	14
Pulmonary smear negative	1	2	3
Extra-Pulmonary TB	1	0	1
Relapse	0	0	0
Treatment after default	0	0	0
Treatment after failure	0	0	0
Transfer in	0	0	0
TOTAL	10	8	18

- Since the commencement of the DOTS program, there has not been a re-lapse cases. This demonstrates DOTS is very appropriate in our island setting. Commencing in 2007, all TB cases detected will automatically be HIV tested. This is due to a re-emergence of TB amongst people living with HIV worldwide.

Table 30 Demographic Data for Registered TB Cases

Age	Male	Female	Total
0-14	1	0	1
15-24	1	1	2
25-34	0	3	3
35-44	0	2	2
45-54	2	0	2
55-64	2	0	2
>65	4	2	6
TOTAL	10	8	18

- There were a total of 18 registered cases of Tuberculosis of all forms. A new trend has emerged and that is that TB is affecting more young people. This contradicts the common belief that TB only affects the elderly. The department has carried out various community awareness programs which includes all the main island groups.
- The Communicable Diseases section also through the assistance of Global Fund has carried out awareness programs through the media by developing media spots for TB-DOTS through TV and Radio programs.

Typhoid Fever

- Over the past 5 years, there has been a marked decrease in the number of cases of typhoid fever caused by salmonella typhi. One of the important findings that may be contributing to this is an improved control and prevention programme, which also includes identifying healthy carriers. Other contributing factors included improved sanitation and living conditions as people are becoming more aware of disease causing factors..
- The section collaborates with the Environment Health section and Laboratory services on the management of identified cases. In 2006, we were not able to identify any healthy carrier(s) for all confirmed typhoid cases. There were a total of four cases of Salmonella typhi for the year, and there was one case each from Fotuha'a, Veitongo, Ma'ufanga and Matuku.

Table 31 Confirmed salmonella typhi typhoid cases by age and sex 2006

Age group (years)	Male	Female	Total
<5	0	0	0
5-10	0	0	0
11-15	0	0	0
16-20	0	1	1
21-25	0	0	0
26-30	1	0	1
31-35	1	0	1
36-40	0	0	0
41-45	1	0	1
Total	3	1	4

- There were no active leprosy cases in 2006 but the unit is still attending to and also carrying out dressings of former leprosy cases that have completed treatment.
- The other services provided by this Section include: issuance of medical certificates for food-handlers and shop-keepers; visa applicants; employment recruitment and others.

Table 32 Total number of people that utilized these specific services of the Section

Quarters of year	Visa applicants (overseas)	Seafarer	Shopkeeper	Employment	Immigration	Food handler	Missionary
First	147	5	509	68	23	535	13
Second	42	5	141	21	35	200	23
Third	50	20	64	104	15	53	30
Fourth	31	18	63	76	24	100	39
TOTAL	270	48	777	269	97	877	105

7.3. Environmental Health

Medical Officer Special Grade Dr. Reynold 'Ofanoa is responsible for managing this section and is assisted by 1 Supervising Public Health Inspector, 2 Senior Public Health Inspector, 1 Senior Public Health Inspector Graduate, 1 Public Health Inspector, 1 Public Health Inspector Grade I, 10 Public Health Inspector Grade II and 4 supported staff.

7.3.1. Financial Allocation

The section was allocated \$16,000.00 for the implementation of its four main activities.

7.3.2. Objectives

The section's objectives are:

- To reduce the incidence of communicable diseases in Tonga.
- To upgrade and maintain the village water supply systems.
- To provide effective environmental health services to the community.
- To oversee and control Hospital Waste Management.
- To attain a high standard of health through out the population of Tonga.

7.3.3. Functions

The section's functions are:

- To provide adequate and high standard of environmental health services to the public.
- To promote and implement improved access to safe water and food.
- To promote improved sanitation practices.

Village Sanitation:

- Carry out house to house inspection.
- Development of women's committees.
- Implement development projects in the community
- Liaise with other stake holders concerning village sanitation.

Water Supply:

- Carry out routine inspection and survey.
- Conduct public meetings with village committees.
- Audit village financial reports.
- Prepare and estimate letter of support for new village water supply instalment.
- Implement projects towards upgrading of village water supplies.
- Water sampling and disinfection.

Food Sanitation:

- Conduct routine food establishment inspection.
- Registration of food establishments.
- Investigate Food borne illnesses.
- Supervising Food Condemnation.

Vector Control:

- Investigate vector infestation.
- Vector control of vector borne illness.
- House fumigation.
- Provide vector survey and eliminate breeding sites.

Garbage Removal:

- Conduct daily collection of garbage.
- Cleaning of road sides.
- Manage and control dump site.
- Manage dry sludge beds.

Seaport Sanitation:

- Inspection of seaport facilities.
- Issuance of pratique certificates for ship arrivals.
- Examine health documents for arriving passengers.

Public Convenience:

- Overseas daily operations of public toilets.
- Maintain a cleanliness of complex.
- Maintenance of facility.
- Record daily usage.

Industrial Hygiene:

- Enforce health and safety issues within the workplace.
- Routine inspection of industries.
- Recording of Industries.
- Conduct Health Promotion Activities within the workplace.

7.3.4. Milestones

In delivering its services, the following were identified as milestones during the year,

- Installation of new village reticulated water supplies and construction of ferro-cement tanks for private households to ensure that >98% of the population gain access to portable water supplies.
- Senior Public Health Inspector Mr 'Ofiu 'Isama'u attended a 6 month training course on community service in Australia and graduated with a diploma in community services.
- Public Health Inspector Mr Niutupuivaha Fakakovikaetau attended an attachment in New Zealand on sanitation.
- The upgrading of existing reticulated water systems with the installation of new household water meters.
- One positive Typhoid case was diagnosed in 2006.
- Mr Andrew Forsyth conducted a workshop on revising and upgrading of existing International Health Regulation.

7.4. Health Promotion

Health Promotion Officer Graduate Mr 'Eva Mafi is responsible for managing this section and is supported by 5 Health Promotion Officers, 2 Technician, 1 daily paid staff and 2 Japanese Volunteer.

7.4.1. Functions

This section's functions are,

- To identify at risk persons/groups within Vaiola Hospital and the broader community.
- To provide health information and propose strategies to at risk persons/groups.
- To work together with the National Non Communicable Disease Sub-committee on Physical Activity and Healthy Eating.
- To collect statistics on risk factors for Non Communicable Diseases.
- To identify and address staff training needs.
- To develop more professional production techniques.
- To support the WHO program of International Health Days.

7.4.2. Objectives

The section's objectives is,

- To empower the public at large, improve their health status by providing primary preventive services and also supportive mechanism for every health program and services throughout the Ministry.
- Training and encouraging staff to be skilled and committed to their roles.
- Expanding the service to enhance resources, staff skills and availability, facilities and equipment.
- Providing information and technical support to other health services and providers, including delivery of the Elimination of Lymphatic Filariasis (ELF) program under World Health Organisation.

7.4.3. Financial Allocation

The section was allocated \$10,751.00 and was utilized for broadcasting of TV programs, purchase office supplies, technical equipment, printing and stationaries. The section received support from partners such as WHO, SPC, PAHP and AusAID.

7.4.4. Activities

During the year, the section was able to implement the following activities.

Radio Programme: The section continued to coordinate the various radio programmes of the Ministry. A total of 171 radio programmes were produced and broadcasted.

Table 33 Number of radio programmes produced and broadcasted - 2006

No	Subject	No. of Programmes
1	Non-Communicable Diseases (Diabetes, Foot Sepsis, Heart Diseases, Hypertension)	35
2	General Health Promotion (Community outreach, outer islands, nutrition and Physical activity, health warning)	30
3	General Oral Health (outreach, health advise, education)	24
4	Live talkback (various health issues including hospital cost and policy, foot sepsis and diabetes, TB, infant health, tobacco, physical activity and nutrition, OPIC intervention, oral health, medical drugs, eye clinic, public complaints)	22
5	Communicable Disease (AIDS, TB, Dengue and Typhoid Fever, Filariasis, STIs, Bird Flu)	20
6	Environmental Health (sanitation, water, dengue fever, typhoid)	10

7	Tobacco Control	10
8	Hospital cost and user fee	5
9	Medical Drugs	5
10	Infant Health	5
11	Community intervention	4
12	Medical Ward	1
	Total	171

TV Programme: The use of television to promote priority health issues in Tonga is one of the major responsibilities of the section. A total of 94 TV programmes were produced and telecasted on TV Tonga and OBN during the year.

Table 34 Number of Television programmes produced and telecasted - 2006

No	Television Programmes	No. of programmes
1	Non Communicable Diseases (Diabetes, Foot care, foot sepsis)	26
2	General Health Promotion (physical activity, tobacco control, nutrition, community and outer islands intervention)	30
3	Communicable Diseases (AIDS, TB, Dengue and Typhoid Fever, STIs, Bird Flu, Filariasis)	22
4	Hospital cost and user fee	5
5	Dispensary (drugs, cost)	4
6	Environmental sanitation	4
7	OPIC intervention	2
8	Eye clinic on the red eye epidemic	2
	Total	94

Table 35 National Survey of Lymphatic Filariasis

	C-Survey (2006)			
	Sample size	Negative	Positive	Percentage
Tongatapu	491	491	0	0
Vava'u	451	451	0	0
Niuaatoputapu	630	628	2	0.3
Niuafo'ou	463	463	0	0
Ha'apai	468	468	0	0
'Eua	424	424	0	0
TOTAL	2927	2925	2	0.068

Table 36 Open Air Aerobics

	Number of sessions conducted	Average Rate of Participation
Waterfront	67	24
Vaiola	28	5
TOTAL	95	18

Monitoring weight loss:

- Female A 31 years: Weighed 112.8kg on 31/08/06, weighed 101.6kg on 5/01/07. Weight loss of 11.2kg combined with improved eating patterns.
- Female B 40 years: Weighed 101.7kg on 30/11/06, weighed 98.8kg on 5/01/07. Weight loss of 2.9kg achieved.

Workplace screening:

- Twenty one workplaces have self-nominated to participate in workplace screening – whereby the Health Promotion Unit regularly visits to monitor weight and height of employees. Over the 12 month period from January to December 2006, the Unit measured 784 persons as part of the initiative: 379 males and 405 females.
- Average age: 35.8 years
- Average height: 1.71 metres (1.76 males, 1.66 females)
- Average weight: 99.1kg (101.3kg males, 96.8kg females)
- Average BMI: 34.1 (32.6 males, 35.4 females)
- Average body fat: 32.1 (23.1 males, 40.1 females)
- These measurements demonstrate that 59% of the participants are obese, 29% are overweight, 11% are in the healthy weight range and 2% are underweight.

Walk for Health:

- Daily walks for health (Monday - Friday) have been conducted by Mr Paula Mafi, who has been engaged to coordinate the walks for 12 months from February 2006 until February 2007. The walks take place concurrently with the free aerobics sessions in public places. Average participation is estimated at 10 persons.
- Rural walks for health have been established in the communities of Kolonga and Nukunuku, in conjunction with OPIC Ma'a Lahi Youth Project. Other community groups have also expressed interest in establishing walking groups under the Ma'a Lahi banner. Attempts will be made to cater for these requests in 2007, either directly or through the OPIC youth project.



Open Space Aerobics Sessions:

- The Unit conducts open-air aerobic sessions free of charge on a daily basis (afternoons Monday to Friday and Saturday morning) at Nuku'alofa waterfront for the general public. The total number of sessions conducted since July 2006 is 95.
- Attendance has been up to 60+ persons but fluctuating; average attendance has been 18 persons. Among the two most regular participants, weight loss has been achieved in combination with healthier eating patterns (2.9kg and 11.2kg).
- A stage and sound system has been procured by WHO.
- The sessions ceased in the period of national mourning, and were temporarily relocated to the hospital car park for the duration of the town closure.

7.4.5. WHO-funded activities

Elimination of Lymphatic Filariasis (ELF) Project:

The National C Survey was conducted in August and will be repeated among 5-6 year old children in May 2007 to conclude the study.

Filariasis tablets were administered in Niuatoputapu during 7-14 November because of confirmed cases, as indicated on C survey. The intervention report highlights 96% coverage of the targeted MDA, pleasing levels

of cooperation of health workers and villagers with the Health Promotion Unit staff, and the issue of inter-island migration.



▪ **Health Promoting Schools Project:**

Dr Lynley Cook has commenced the first stage of consulting and planning for the introduction of the Health Promoting Schools concept, targeted to launch in early 2007. The Unit's Grade I Health Promotion Officer will be central in implementing various initiatives in the designated secondary school communities, supported by the Australian and Japanese volunteers.

▪ **Weighing scales:**

The Health Promotion Unit distributed fifteen weighing scales (funded by WHO) to Public Health Nurses, for use in community health centres. It is expected that the public will make use of the scales to weigh themselves regularly, or as required, under the guidance of the Nurses.

▪ **National NCD and Sub-Committee on Physical Activity and Tobacco:**

The Section Head has continued participation and active support in the efforts of the National NCD Committee and Sub-Committees. The key activities were:

- Responsibility for the completion of public footpaths around Mala'e Kula and along Taufa'ahau Road – status ongoing;
- Responsibility for the World No Tobacco Day promotional activities – see below (No Smoking signs for schools).

▪ **No Smoking Signs for Schools:**

The "NO SMOKING" signs for schools were donated by the New Zealand High Commission, Tonga Development Bank and the World Health Organization. A launch was held at the commemoration of World No Tobacco Day on 31 May 2006 at Tonga High School. The signs are yet to be fully distributed to all schools.

7.4.6. Milestones

In providing its services, the following were identified as milestone during the year.

▪ **Trainings and Workshops**

- Associate Professor Will Parks conducted social marketing training for the Health Promotion Unit Staff and other participants from 9-12 August, 2006.
- Staff are required to make 15 minute Power Point presentations in staff meetings primarily to improve their skills in information research and written and verbal communication.
- With the arrival of two AusAID youth ambassadors in October, the Unit staff will benefit from the intentional skills-sharing and capacity building by these two during their 12 months contract.
- Mr Vilisoni Kaivelata completed a six months Graphic Design attachment at the Fiji Centre of Health Promotion.
- Ms Lesieli Vanisi attended a 12 months certificate of Public Health and Nutrition programme at the Fiji School of Medicine.

- **Human Resources:**
 - Mr Pita Fatai, Media Technician was recruited in October.
 - Two JOCV Mr Takamasa Ichinose, Physical Instructor and Ms Mizuki Sasano, Filariasis Project Officer are employed by the section.
 - Two Australian Youth Ambassadors Mr Owen Dowley, Graphic Designer and Miss Nicole Butcher, Health Promotion Projects Officer joined the unit in September for 12 months.

7.5. Community Health

Dr Litili 'Ofanoa, Director of Health and Mr Tu'akoi 'Ahio, Principal Health Administrator are responsible for managing this section and are supported by 5 Senior Health Officers, 2 Nurse Practitioners, 17 Health Officers and 1 Clerk Typist.

Community health services entail health services beyond the boundaries of the four hospitals in the country. Services are delivered from 7 rural Health Centres in Tongatapu, 2 in Ha'apai, 3 in Vava'u and 1 each in Niuatoputapu and Nuafo'ou. The Health Centre is the base from which comprehensive primary health care services are delivered to the community.

7.5.1. Objectives

The section's objectives are:

- To promote community participation in repairing, renovation and maintenance of health centre premises.
- To educate and promote healthy life style in the community
- To improve data collection and reporting system from the health centres.
- To coordinate, plan and implement school health programmes.
- To upgrade staff skills and knowledge
- To improve the patient referral system from health centres to hospitals.
- To engender and motivate Health Officer to rural and isolated areas.

7.5.2. Functions

The Health Centre's functions are:

Treatment

- Provide 24-hour primary health care services to its community.
- Provide limited inpatient care at health centres.
- Refer patients requiring specialized medical and nursing service.
- Provide follow up of cases referred from hospitals.
- Provide rural dispensary services.
- Provide Diabetic clinic and follow up defaults.

Family Health

- Provide supervised childcare, immunization, family planning, antenatal care and referral of patients requiring hospital care.
- Provide immunization for tetanus, measles, whooping cough, polio and diphtheria.

Dental Health

- Provide and assist with the provision of dental services.

Disease Control

- Control communicable diseases through case finding, default tracing, surveillance, immunization and assistance with treatment.
- Promote programmes for nutritional improvement through community, schools and liaison with other agencies.
- Advise on and promote suitable water supplies, methods of waste disposal, housing and vector control.

Health Education

- Promote personal and community awareness of the value of health, importance of nutrition, environmental sanitation, personal hygiene, and community cooperation with disease control activities.

Community Involvement:

- Work with communities to promote participation and contribution to the management of rural health services.
- Cooperate, assist and integrate services within a rural health district.
- Report regular on health status of the population and activities carried out within the service.

Table 37 Health Centre Visits (Tongatapu)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Kolonga	Nil	449	471	295	303	287	404	565	Nil	79	407	420	3680
Mu'a	276	796	1289	999	1427	853	1003	958	889	1001	930	849	11270
Fua'amotu	Nil	Nil	774	557	743	618	644	612	539	541	Nil	398	5426
Vaini	Nil	470	Nil	654	433	Nil	Nil	Nil	Nil	Nil	371	274	2202
Houma	Nil	283	440	380	347	49	370	290	256	492	465	522	3894
Nukunuku	510	566	405	309	520	272	203	365	303	355	303	338	4449
Kolovai	316	460	525	345	555	327	546	580	559	642	668	615	6138

7.5.3. Financial Allocation

The section was allocated \$32,000 and was utilized for purchasing of office supplies, training of staff, grounds keeping, printing and stationery.

7.5.4. Milestones

In delivering its service, the following were identified as milestones during the year.

- Achievement through partnership with the community.
 - Renovation of Kolovai Health Quarter.
 - Monthly meeting with Health Officers.
 - A computer set for data and monthly reports input for all the Health Centres.
 - Diabetes cases who are well controlled are follow-up at the Health Centres.
 - Project proposals for Mu'a and Vaini Health Centres were developed for donor consideration.
- Training
 - HO Savelina Veamatahau attachment at the University of Auckland, Department of Optometry and Vision Science, New Zealand.
 - HO Talilotu To'ia attachment on Anaesthesia at the University of Papua New Guinea.
 - Principal Health Officer Simone Tei attachment for 3 months at Fiji School of Medicine, Suva, Fiji.
 - HO Viliami Falevai attachment for 3 months at Fiji School of Medicine, Suva, Fiji.
 - HO Ongolupe 'Olivet, attachment for 3 months at Fiji School of Medicine, Suva, Fiji.
 - HO Losaline Kuafusi attachment for 3 months at Fiji School of Medicine, Suva, Fiji.
 - SHO Amone Vaka'uta attachment for 3 months at Fiji School of Medicine, Suva, Fiji.
 - SHO Paea Hingano attachment for 3 months at Fiji School of Medicine, Suva, Fiji.

8. MEDICAL SERVICES

8.1. Management

Medical Superintendent, Clinical Services, Dr Siale 'Akau'ola is responsible for the administration and management of Vaiola Hospital and was supported by the Hospital Administrator, Ms. Kolianita Alfred who was later on joined the voluntary redundancy program. Hospital is divided along the traditional medical disciplines by wards and specialities and supported by clinical and non-clinical services.

8.2. Paediatric Ward

Specialist Paediatrician Dr Toakase Fakakovi is responsible for managing the ward and the Special Care Nursery (SCN) and is supported by 1 Paediatric Registrar, 1 Medical Intern, 20 Nursing and 1 non clinical support staff.

8.2.1. Objectives

The section's objectives are:

- To improve and upgrade patient management and staff performance.
- To upgrade and maintain ward equipments and facilities.
- To ensure and maintain best infection control.
- To reduce overall inpatients case fatalities by 10%.
- To reduce inpatients mortality from common illnesses by 10%.
- To develop protocols and guidelines for management and treatment of common paediatric and neonatal illnesses.
- To organize and implement CDD and Acute Respiratory Infection workshops for health care workers to help decrease the overall morbidity and mortality from these illnesses throughout the country.
- To establish and register Vaiola Hospital as a Baby Friendly Hospital.
- Assess the effectiveness of Hib vaccine since its introduction in May 2005.
- Work closely with Reproductive Health and Health Information to validate Child Health Indicators (Rates for Perinatal Mortality, Neonatal Mortality, Infant Mortality and U5 Mortality).
- Initiate a continuous "Child Health Situational Analysis" using visiting consultant and local people to validate our indicators and assist the department identifying new areas of need in Child Health and therefore plan the service accordingly. This should be a 5 yearly ongoing process.
- To establish a Rheumatic Fever/ Rheumatic Heart Database for Tonga and promote the necessary preventive measures.

8.2.2. Functions

The section's functions are:

- Provide the best possible health services to ensure best physical, social and economical development and good health status for all children aged 0 to 14 years in Tonga.
- Provide care for acutely ill children and those with chronic diseases.
- Special care for premature babies.
- Support and care for disabled children.
- Refer children who need overseas treatment.
- Provide health education for staff, parents and the public regarding child care.
- Provide support and advice to all other hospitals and health centres in the country.
- Collaborate with other sections (Public Health, Obstetric) and organizations that are directly involved in the care of children.
- Continuous improvement and upgrading of health services for the children of Tonga.

- Address the emerging issues affecting health of children in Tonga.

8.2.3. Financial Allocations

The ward was allocated \$ 5,000.00 for the purchase of non-clinical supplies.

Medical Personnel.

- In 2006, Dr. Kyan Ahdieh moved on to the Accident and Emergency Department leaving only the Paediatric Specialist and Registrar Dr. Catherine Latu to manage the Ward.
- There were only 2 interns who had rotated through Paediatric Ward during the year, leaving 6 months of no support from the interns.

Paediatric Ward Nursing Staff

Nursing Sister Mele Kapani continued to be the charge nurse in 2006. New rotating nurses come and go but fortunately most of the experienced nurses were kept in the ward and again, this helped uphold the standard we want to keep our service at. The very rare occasion of calling in nurses from other wards to work in the ward demonstrates how dedicated these nursing staff are to provide service to the children. In time of illness, other staff quickly step in to cover.

At the first half of the year Nurses from both wards especially the Paediatric Ward with no ICU training were forced to care for critically ill patients in the respective wards. These were of course with no extra support in most cases. Despite the emotional and physical drain, the staff continue to provide these services to the best of their ability. In time of short staff, the qualities of care were always maintained. With the improvement of staffing in the ICU more and more of our sick patients were looked after in ICU by the later half of the year.

Ideally for both wards to have a dedicated clinical nursing consultant apart from the Sister-in-Charge to be directly responsible for teaching and maintaining good quality clinical care. Currently this role is performed by the Specialist Paediatrician who has a lot of other responsibilities.

Special Care Nursery Nursing staff

A midwife is now in charge of the SCN. At the best of time we have 6 permanent nursing staff in the unit who always strive to provide the best of care for the babies in the country. These nurses staff rotate the 3 shifts when the workload is high and proceed on deferred leave when workload is lessens. Consequently, quality care in the ward was maintained throughout the year.

8.2.4. Milestones

In delivering its services, the following were identified as milestones during the year:

- A new SCN with new equipments for the babies of Tonga at the New Vaiola Hospital.
- Expected outcome from the introduction of Haemophilus Influenza Typeb (Hib) vaccine was already observed in 2006 with dramatic decrease in the rate of meningitis and septicaemia.
- Case Fatality Rate for Paediatric Ward for 2006 was half the rate for 2005 considering deaths inside the ward only. However if all deaths among the Paediatric population were counted CFR among Paediatric population for 2006 was 22 per 1000.
- Further decrease of CFR among SCN was noted in 2006 with 41 per 1000 compared to 46 per 1000 in 2005.
- Smallest baby to survive from SCN in 2006 was a 27 weeks baby with BW of 1080 grams.

- Extra effort to validate IMR and U5MR was very successful this year and although it is not 100%, working parties are happily working closely together and the figures we have for 2006 is the most accurate data ever collected.
- Situational Analysis of Child Health in Tonga is the first of an ongoing 5 yearly process for the Section and overseas consultants to realistically critique the service we provide in order for us to make improvements.
- More positive work initiated this year for Rheumatic Heart Disease with the effort to establish a database and networking with overseas (WHO, WHF) organisational for comprehensive cost effective Secondary Prevention program.
- Apart for ARI and CDD workshops to staff of the Ministry, for the first time Paediatric Team went out and conducted workshops in villages and workplaces to a total of 30 community groups. This will continue in 2007.

Provided below is a summary of the wards activities during the year.

The Paediatric Service provides service to children from age 0 – 14 years; total of 25,806, 36.2 % of the population of Tongatapu.

Table 38 Paediatric population of Tongatapu

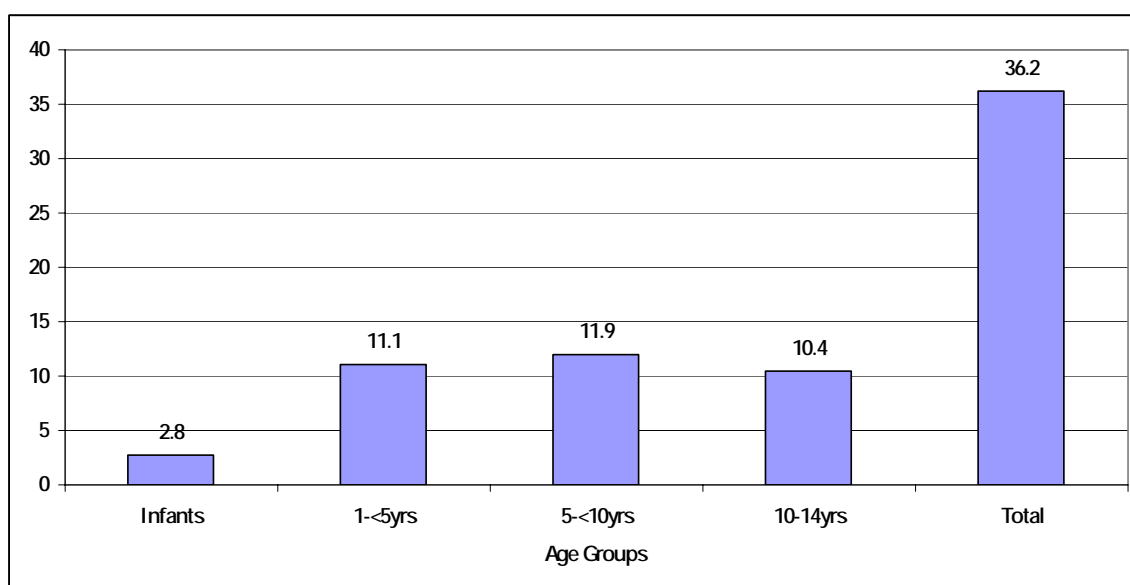
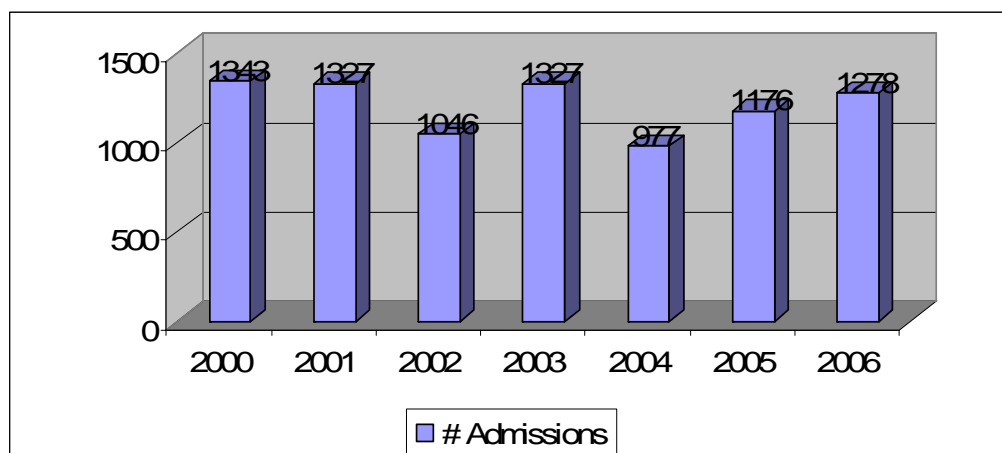
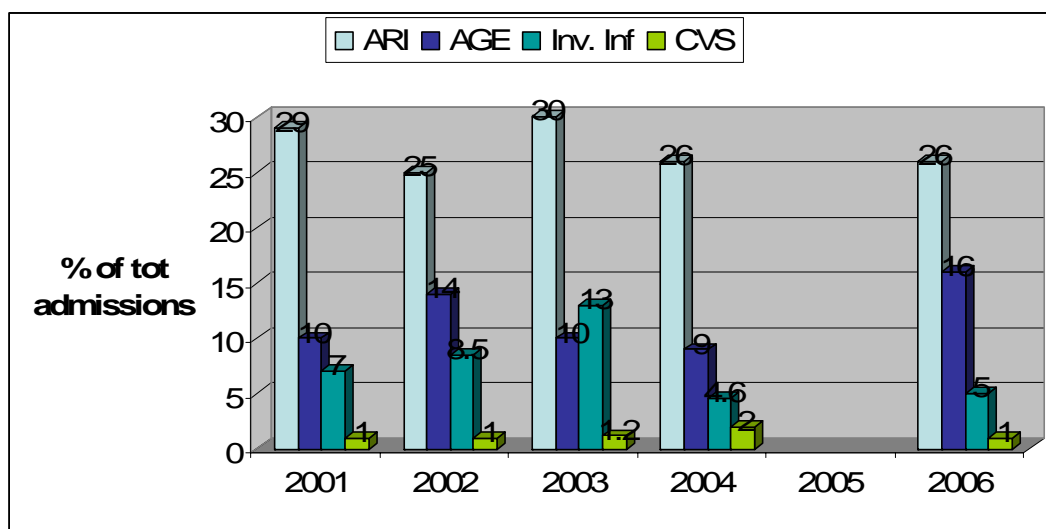


Table 39 Paediatric admission for 2006



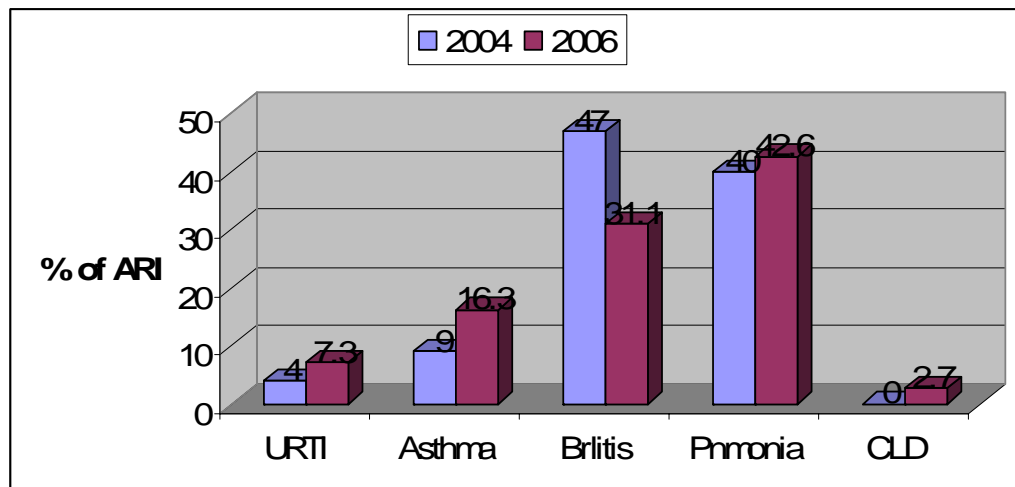
- Paediatric admission for 2006 increased by 102 patients compared to year 2005.
- January 2006 a Gastroenteritis epidemic resulted in 6 lives, 4 lives lost in Tongatapu and 2 from Vava'u.
- The busiest month for 2006 was October with 141 admissions. Fortunately this was when the Australian Orthopedic Team visited the country. 30 Talipes were operated during this visit. June was the quietest month with only 71 admissions.

Table 40 Common and Serious Causes of Admissions



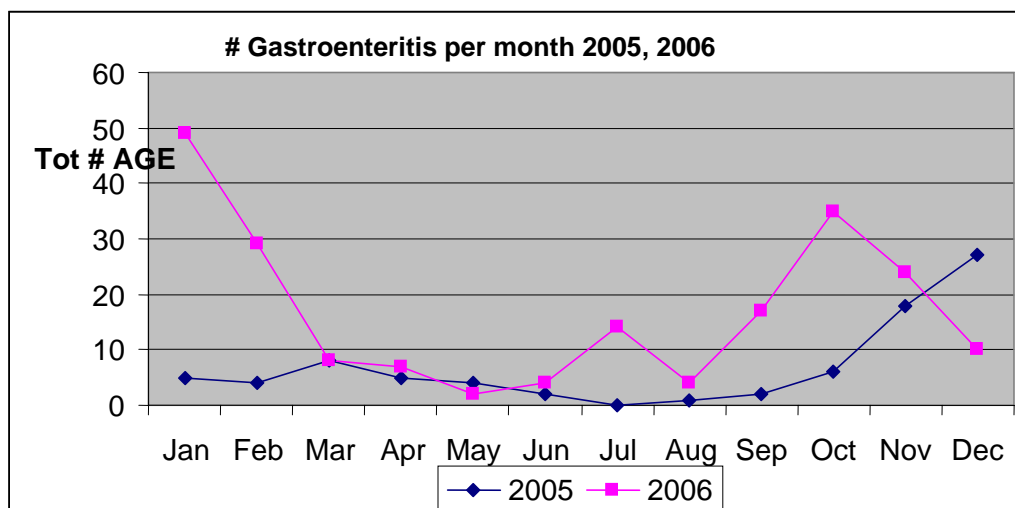
- Acute Respiratory Infection (ARI) continued to be the major cause of admission to Paediatric ward with Acute Gastroenteritis contributing 16%, Invasive infections 5% and 1% due to cardiovascular disease.
- Mumps and Tumour caused a high number in admissions total to 8 cases this year, with 1% of the total admissions, which is a very unusual high rate for these conditions.

Table 41 Acute Respiratory Infection (ARI)



- Comparing Respiratory disease of 2006 to 2004, rate of Asthma almost doubled and Pneumonia increased by 2.6% and there were 9 cases of Chronic Lung diseases in 2006.
- From the Chronic Lung disease, 1 Tuberculosis, 3 chronic lung disease secondary to Congenital conditions, 1 Hyaline membrane disease and prematurity and 4 cases of bronchiectasis.

Table 42 Gastroenteritis cases by month, 2006



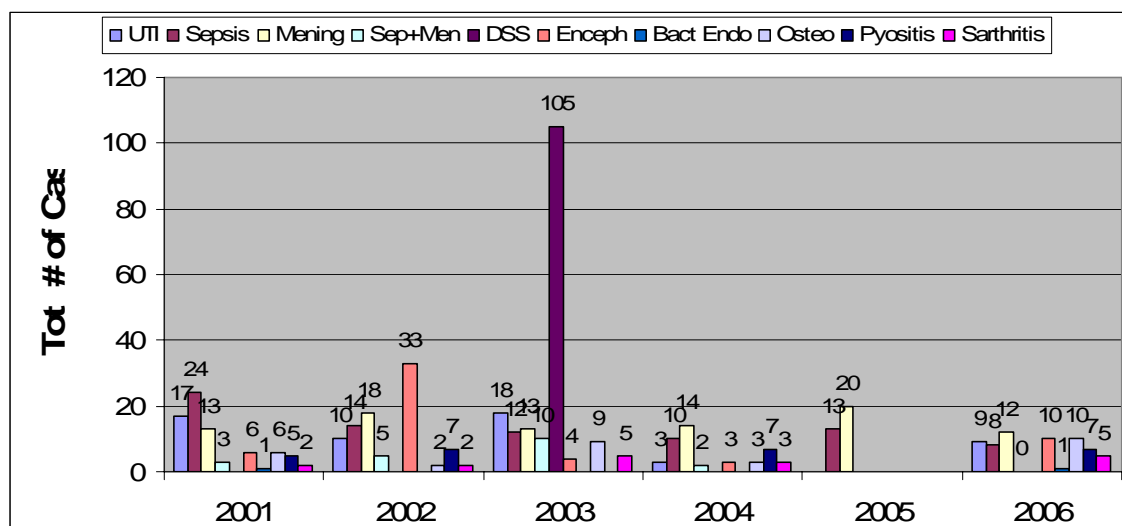
- Acute Gastroenteritis again account for 10% of all medical admissions with a clear epidemic during the summer month. This has always been the pattern for the previous years but this epidemic had more children complicated by hyponatremia and claimed 4 deaths in 2005.

Four new cases of Congenital Hypothyroidism were diagnosed this year. One was diagnosed at birth in Australia with the Guthrie test, 1 was 4 months, and 1 was 4 years old who had TFT at 6 months of age but never came back for follow up. The other was an 11 years old. This increased the total of Congenital Hypothyroidism diagnosed in the last 2 years to 6.

The message here is Congenital Hypothyroid is just as common in Tonga as any other place with an expected prevalence of 1 in 400. From these children being diagnosed at different ages and having severe

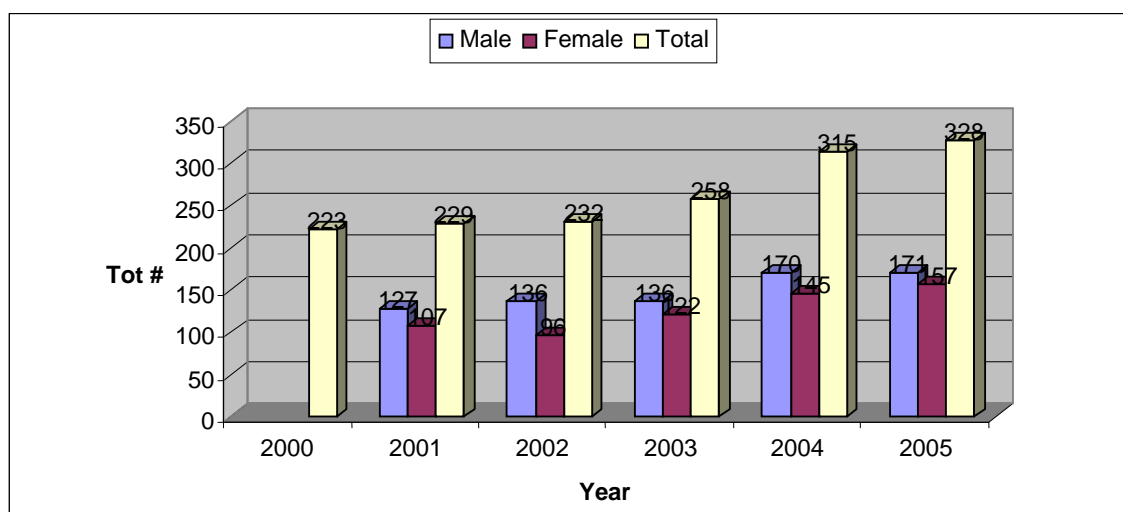
consequences of late diagnosis provide strong point for the Guthrie test to be introduced to Tonga. Expected number of 6-7 cases of Congenital Hypothyroidism per year.

Table 43 Causes of Invasive Infection in the last 6 years 2001-2006



- Invasive Infection had always been a major cause of morbidity and mortality among Paediatric patients.
- Causes of Invasive Infections over the last 6 years Septicemia and meningitis together contributed a significant proportion of the cases of Invasive Infection. In 2002 Rubella epidemic causing significant number of Encephalitis and in 2003 the Dengue epidemic contributed another significant number of Dengue Shock Syndrome.
- With the introduction of Haemophilus Influenzae type b (Hib) vaccine in May 2005 diseases commonly caused by this organism like Pneumonia, Meningitis and Septicaemia and is expected to come down dramatically.

Table 44 Total cases of Meningitis, Septicaemia and Meningitis plus Septicaemia 2001-2006



- A definite decreased over the years of these serious conditions. Further decrease is expected as more and more children in Tonga is immunize with Hib vaccine. Similar effect is expected for pneumonia as well further decreasing in morbidity and mortality from Acute Respiratory infections.

Cardiovascular Disease

- Congenital and Rheumatic Heart Diseases (RHD) contributes 1 – 2% of the annual Paediatric admissions. This does not reflect the true burden of disease as only severe cases are admitted. Congenital and RHDs again also utilized a large portion of the Ministry's budget as most cases require overseas cardiac surgery.
- Rheumatic Heart Disease affects 4% (40 per 1000) of children age 3 – 14 years and works are underway to register all these patients.
- The main target of the section now is to work together with relevant stakeholders both locally and internationally (WHO, World Heart Federation - WHF) to produce a comprehensive secondary prevention program for RHDs. Currently working on establishing a database is a step forward on this process.

Paediatric Cancer/ Tumours

- Cancer among Paediatric patients had not been addressed on its own in previous years. However number of cancers diagnosed 2006 reached 9 cases compared to the usual 1 – 2 cases per year. Two of these were diagnosed as Outpatients, altogether this 9 gives a rate of 0.7% of the total admissions.
- Of the 9 cases, there was 1 case of herpetic tumour, 1 case of Wilm's, 1 case of Lung cancer, 1 case of Intra-abdominal mass and 5 cases of brain tumour.
- By the end of the year, 6 of these patients died with 67% mortality rate for Cancer and contributing 21% to all Paediatric deaths in the country.

Case Fatalities

- Compared to last year we had more admissions but fewer fatalities.
- In 2006 there were 28 deaths in the Paediatric population in Tongatapu compare to the 20 deaths in the Paediatric ward plus 5 deaths outside in Tongatapu in 2005. Majority of deaths were under 5 years old with 22 cases (78%) and 57% were male.

Table 45 Total admissions and total number of deaths in the last 6 years

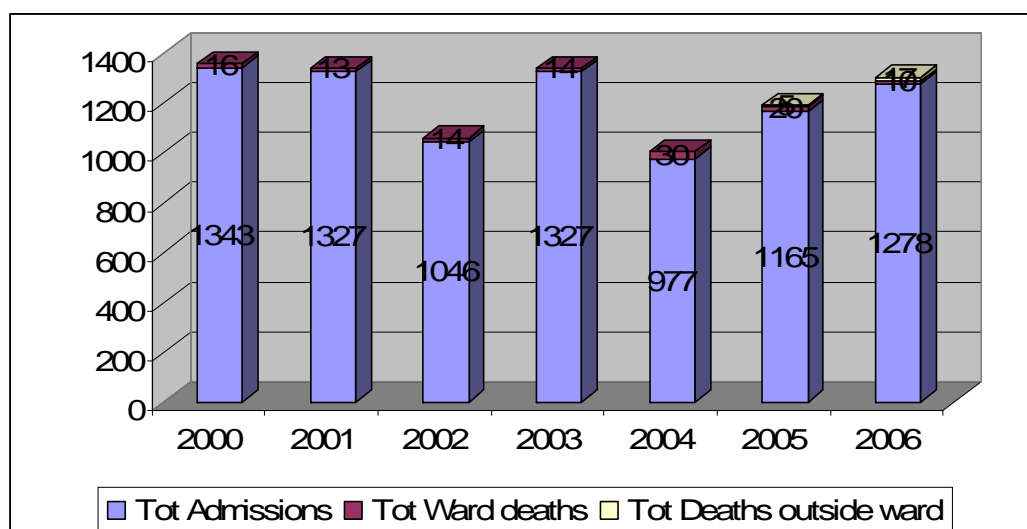


Table 46 Case Fatality rate in Vaiola SCN in the year 2001 - 2006

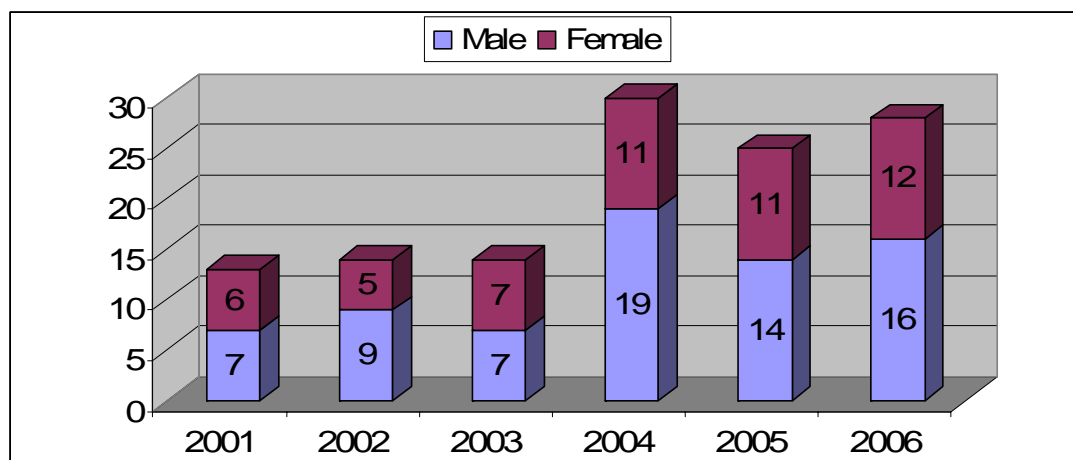
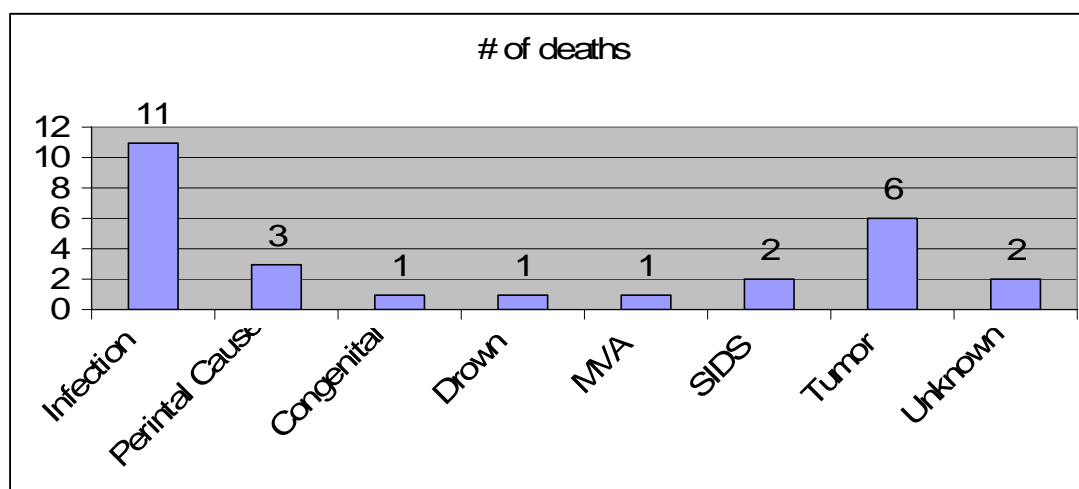


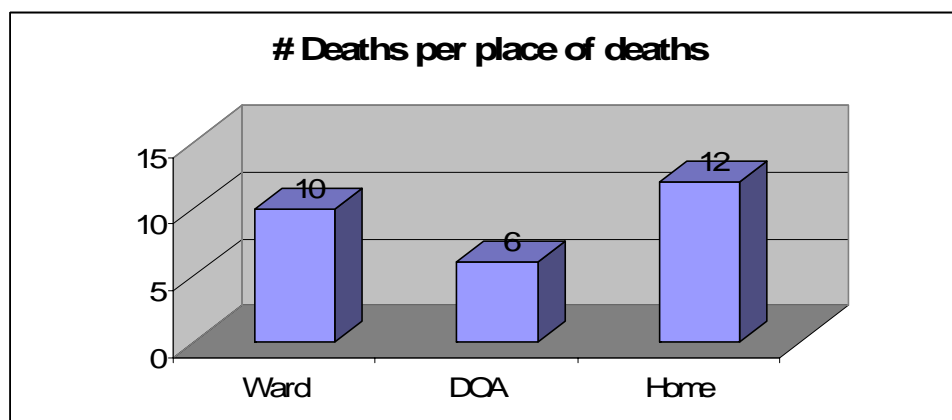
Table 47 Causes of fatalities among Paediatric patients, 2006



- Infectious disease has always been the major cause of deaths among Paediatric patients causing 41% of deaths in 2006.
- Breakdown of the 11 patients who died of infectious cause were as follows:
 - 6 died of Acute Gastroenteritis - 2 died in the ward, 2 dead on arrival at A&E and 2 died at home. 2 were infants and the other 4 were U5 years old. This is the highest rate of fatality per year from AGE for this decade.
 - 3 from Septicaemia – 1 infant and 2 age more than 5 years. A definite decrease of more than 50% from the 7 cases last year where all the cases were infants.
 - There was only 1 death each from meningitis and bronchiolitis.
- 3 infants died of ongoing perinatal conditions, 2 with chronic lung diseases post Hyaline membrane disease, and 1 with severe hypoxic ischaemic encephalopathy.
- 1 had congenital condition of esophageal atresia and despite repeated surgery he died from chronic lung disease secondary to chronic aspiration. 1 death each from motor vehicle accidents and burn.
- Cancer cause 6 deaths – 1 infant with hepatic tumour, 2 under 5 years, Brian & Wilm's tumour, 3 aged more than 5 years brain tumour, Lung mass and Liver cancer. There were 2 other brain tumours, 1 successfully operated on and the other is dying in New Zealand after being referred. This

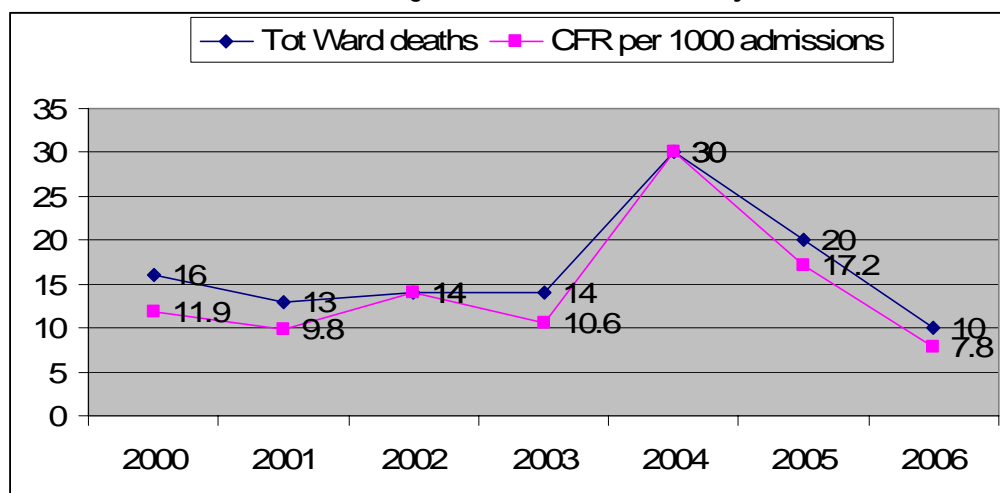
is the highest rate of tumour ever diagnosed in the Paediatric population per year. Overall tumour had contributed 26% of deaths among the Paediatric population for the year 2006.

Table 48 Places of Deaths for Paediatric Population, Tongatapu for 2006



- Places of deaths is being highlight and taken to account for the first time in this Annual Report. 10 occurred in the hospital. 6, 6 children under 5 years old were dead on arrival (DOA). Two had a history of gastroenteritis, 1 drowns and 3 deaths of unknown cause.
- 12 died at home where 4 (30%) were cancer cases - 2 infants and 2 older children. All cancer cases had diagnosis confirmed in the hospital. 2 chronic lung diseases so 50% of deaths at home were expected from incurable or chronic cases. Acute conditions include 2 gastroenteritis, 1 bronchiolitis, 1 mental delay (T21) with chest infection and one baby died (SIDS) on day 2 after discharged from Postnatal ward.

Table 49 Case Fatalities rate among Paediatric Patients for the year 2000 – 2006



- With the 10 deaths that occurred in the Paediatric ward; the Case Fatality Rate (CFR) for 2006 is 7.8 per 1000 (10 out of 1287 admissions). This is less than half of the CFR for 2005, 17.2 per 1000. Despite high fatality from AGE only 2 cases out of 22 confirmed cases of hypernatraemic dehydration died.

Special Care Nursery

Admissions to the Special Care Nursery in 2006 was the lowest in this decade with 221 babies of male (56%) and female (44%). Average per month number of admissions is 20 and towards the end of the year December 2006 had the least admissions with only 7 babies.

Table 50 Total number of admission to the Special Care Nursery for Year 2000-2006

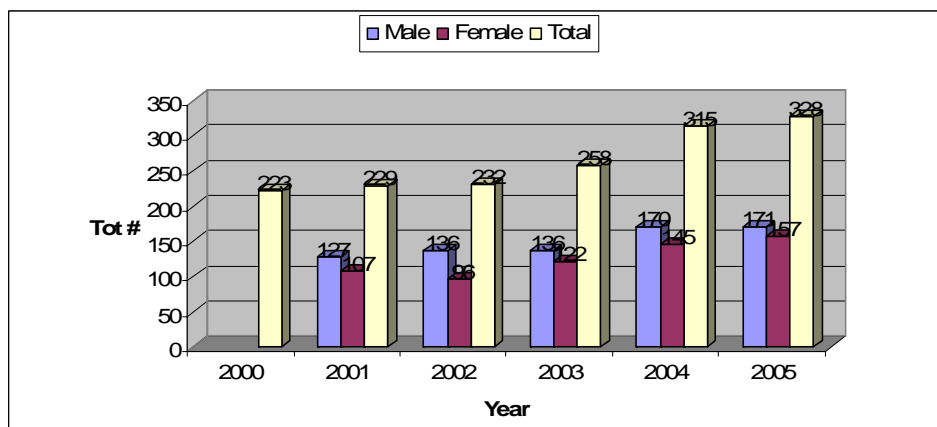
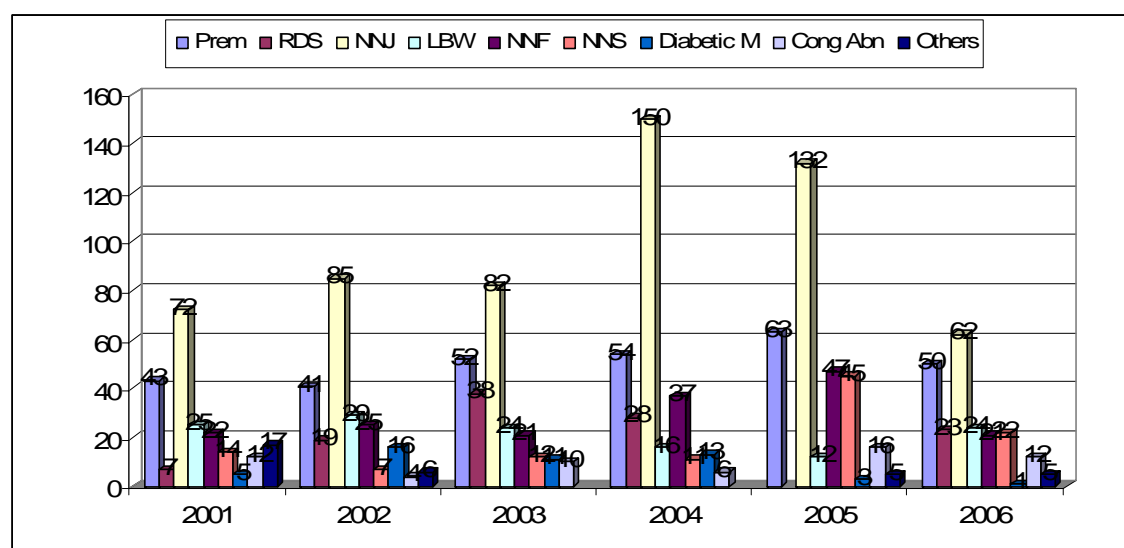


Table 51 Causes of admission to the SCN, 2001- 2006



- Neonatal Jaundice and Prematurity had always been the 2 most common causes of admission to the special care nursery.
- For 2006, 28% of admissions were due to jaundice with 52% being due to ABO Incompatibility and 48% were due to Physiological jaundice. This is a big improvement from previous years where almost half of the admissions were due to Physiological jaundice. Again this year we were able to prevent the need for Exchange transfusion. The last time we did Exchange transfusion was in 2002 and we hope to keep that record.
- Prematurity caused 23% of admission with babies ranging from 23 to 36 weeks gestational age and birth weight of as little as 600 grams. This year a 27 weeks baby with Birth Weight of 1080 grams survived from the unit. The smallest to survive from our unit was a 27 weeks baby in 2002 with BW of 880 grams.
- Low Birth Weight (LBW) alone contributed 11% (24 cases) of admissions compared to 4% (12 cases) of last year. Premature babies had low birth weights giving a total of 74 LBW babies born in Vaiola out of

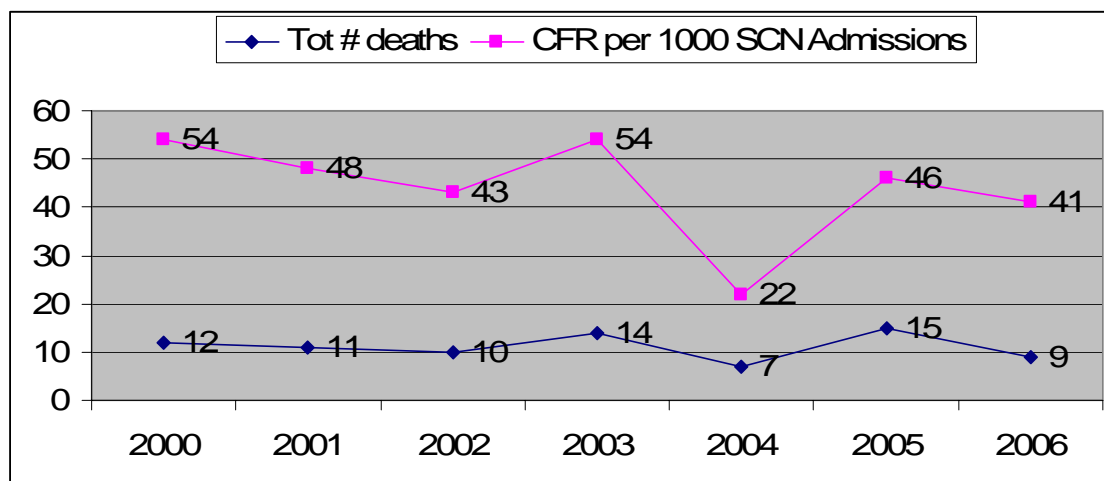
1939 total deliveries in 2006. This gives a prevalence rate 3.8% of LBW for Tongatapu and 2.8% for the whole of Tonga with 2663 total live births for 2006.

- Neonatal fever and Neonatal sepsis both contributed 10% each were the third and fourth common causes of admission.
- Congenital abnormalities contributed 5% (12cases) of admission compared to only 5% (16cases) last year. Again similar to last year Congenital Abnormality accounted to majority of neonatal deaths with 44% (4 out of 9) mortality rate.
- Other uncommon causes of admission include meconium aspiration (6%), birth asphyxia (5%) and (2%) with hypoglycaemic episode. The biggest baby born in Vaiola in 2006 weighed 5500 grams.
- 28 babies needed CPAP this year compared to 10 last year, 3 needed ICU admission for ventilation but only one survive. One baby with Congenital Heart Disease was transferred to Australia for surgery.

Case Fatalities in the SCN, 2006

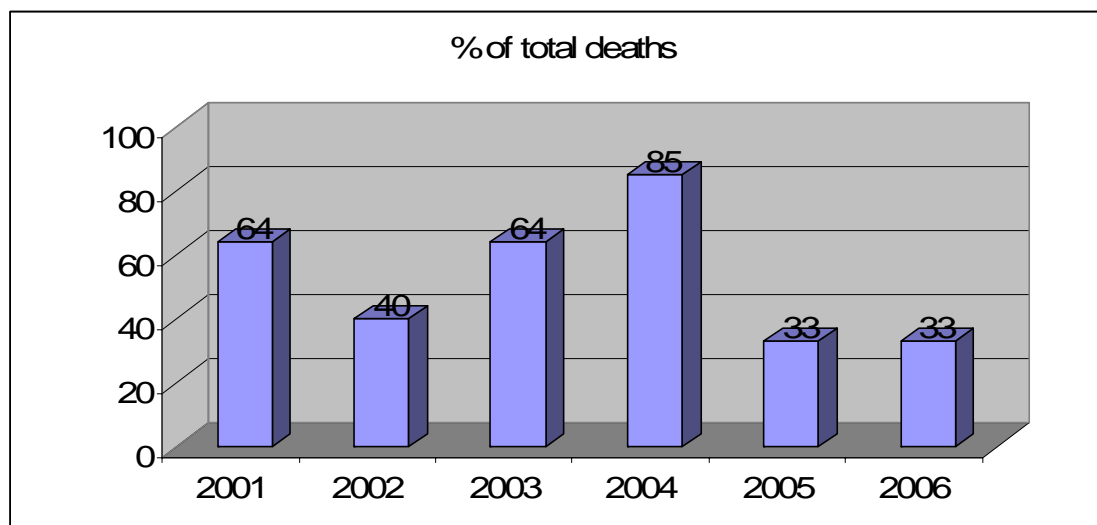
- During 2006 SCN had 9 deaths, 6 deaths less than last year; 2004 had the least deaths in the last 6 years with only 7 deaths.

Table 52 Case Fatality rate in Vaiola SCN in the year 2000-2006



- More male babies (56%) died than female babies. The most common cause of death was congenital abnormality (54%) in contrast to Prematurity, the major cause of death in the 4 preceding years.
- Of the 4 deaths one had nasal atresia, two with congenital lung condition and one with complex cyanotic heart disease.
- 3 (33%) died from Prematurity all extreme prematurity (2-23, 27 weeks) with severe hyaline membrane diseases with birth weights of 600-1000 grams, all died within 10 hours of birth. A 29 weeks baby died at 2 weeks of age with sepsis. The other baby was a birth asphyxia.

Table 53 Causes of fatalities in SCN for 2005, 2006



The Case Fatality Rate for the Special Care Nursery for the Year 2006 was 41 per 1000 compared to 46 in 2005. Again Congenital Abnormality was the major cause of deaths of 44%. These fatalities could not be prevented not only in our set up here in Tonga but also in most hospitals around the world.

Perinatal, Infants and under 5 mortality rate

- All efforts were made to identify all deaths in the Kingdom both in hospitals and communities from all sources (health information, Paediatric services and Reproductive Health) in order to work out the most accurate Child Health indicators.

Type of Deaths	Total Number	Rate per 1000
Total Live Births	2663	
Total SB after 26 weeks GA	22	
Total ENND	13	PNMR: 13
Total NND	13	NNMR: 4.9
Total Infant Deaths	31	IMR: 11.6
Total U5 Deaths	43	U5MR: 16.1

Burden of Hib disease since Hib vaccine Introduction in May 2006. This had been discussed under Paediatric Section - Invasive infection.

Situational Analysis of Child Health in Tonga. A situational analysis of Child Health in Tonga done by WHO Consultant Dr. Alan Ruben in conjunction with the Paediatric team was conducted at the end of 2006. Final result is yet to be released.

Rheumatic Fever / Rheumatic Heart Disease Database. Work had been started between the section, World Heart Federation and WHO to establish a sustainable comprehensive database for Rheumatic Heart Disease in Tonga.

8.3. Surgical Ward

Senior Medical Officer Dr. Samson Mesol is responsible for managing the ward and assisted by 1 Surgeon Specialist Dr David Innes and 1 Medical Officer. Nursing Sister Graduate Salote Schaumkel headed the team of 19 nurses.

8.3.1. Objectives

The ward's objectives are:

- To deliver safe surgical quality services to our customers with the best possible health outcomes for the people of Tonga, and to practice surgical services within the Ministry of Health with available resources at all time.
- To ensure that most surgical clients are provided with enough health education at all times.
- To continue to value surgical staff by enhancing staff sense of pride and commitment through ongoing training, allow flexibility and innovative practice in all level of services.
- To practice good communication skills through revising staff job descriptions according to each staff roles and responsibilities.
- To promote team work and training of staff at all levels.
- To ensure the sustainability of surgical patient care by providing ongoing Special Outpatient Clinics.

8.3.2. Functions

The ward's functions are:

- Treat and manage all patients presenting with surgical problems.
- Provide safe, efficient, effective and timely pre-operative and post-operative services for those undergoing surgery above the age of 12 years.
- Determine, screen and stabilize clients for surgery.
- Provide effective health education for surgical patient at all times.
- Conduct ongoing training for staff of surgical ward.
- Respond effectively to surgical referral of clients from community clinics, Outer Islands and overseas referral when needed.
- Provide safe and clean working environment in the ward by ensuring that instruments and equipment are available and in good condition at all times.
- Follow-up discharge patients and out patient surgical patients by providing Special Outpatient Clinic on Monday, Wednesday and Friday.

8.3.3. Financial Allocations

The ward was allocated \$4,000.00 and was utilized for the purchase of non clinical supplies and equipment.

8.3.4. Milestones

In delivering its services, the following were identified as milestones during the year,

- Relocation to new surgical ward on the 6th September 2006 was a great improvement and appreciated by surgical patients and surgical staff of Vaiola.
- Dr David Innes, Surgeon Specialist joined the surgical unit from the beginning up to August 2006. He contributed significantly to the delivery of surgical services.
- Interplast team visit from 2nd – 6th October 2006.
- Orthopaedic (Food Club) team visit from 20th – 23rd October 2006.
- Neurologist Dr Chris Furneaux visit on the 23rd to 25th October 2006.
- Medical Officer Dr Lafimoa Vaipulu joined the team in December 2006.
- Staff Nurse 'Olive Tu'itupou completed a one year post graduate certificate in Intensive Care Nurse in May 2006.
- Staff Nurse Lisia Likiliki completed a wound attachment for 3 weeks in Ballarat , Australia in November 2006.
- Establish asset register for the ward equipment and facilities.

- Developed impress system for all the surgical drugs and medication established.
- Ongoing monthly monitoring of customer questionnaire feedback system for all surgical inpatients.
- Staff nurses conducted monthly meeting and informal in-service training.

8.4. Medical Ward

Senior Medical Officer Dr Sione Latu is responsible for managing the ward and is supported by 3 interns, and 15 nursing staff.

8.4.1. Objectives

The wards objectives are:

- To teach medical staff the ethical standard of integrity and professionalism viewed as the traditional hallmarks of the physician.
- To emphasize the principles of evidence-based medical treatment, discussed in the context of cost-effective, outcomes-oriented care.
- To provide ongoing education opportunities of the highest calibre to practitioners.
- To review and develop programs that will answer the needs of health care reform and better train medical staff in the environments of the future.
- To formalise the Standard Treatment Guidelines as Treatment Protocols for management of internal medicine cases.
- To reduce morbidity and mortality related to non-communicable diseases and related complicated through a concerted primary care approach and risk factor management on a secondary prevention level.
- To send one Medical Officer for postgraduate training at the Masters and one at the Fellowship level.

8.4.2. Functions

The wards functions are:

- To provide comprehensive, longitudinal, humane and cost effective medical care to the ill and expert health counsel to individual patients and to the community as a whole.
- To act as a responsive resource in affairs related to general internal medicine and primary care for the national with a particular emphasis on the health care needs of Tonga. This includes consultation medicine (inter-departmental, inter-island and overseas referrals).
- To educate medical staff in the field of general internal medicine recognizing that it is an integral part of primary care.

8.4.3. Financial Allocations

The ward was allocated \$5,000.00 and was utilized for purchase of equipment and office supplies.

Outpatients Services:

- There are 5 formal Special Outpatient Clinics of which 1 is on a 1 in 3 rotational basis between Vaiola Hospital, Mu'a Health Centre (for the Eastern Districts) and Kolovai Health Centre (for the Western Districts).
- Between 20-25 patients per clinic with an average duration between clinics re-visits of 6-8 weeks.
- There are approximately 1-2 new patients per clinic. Clinics are held for only approximately 48 weeks of the year making it a total of 240 Special Medical Outpatient Clinics per year.

- Using 25 patients/clinic will approximately to 6,000 clinics per year. Patient will be seen between 6-8 times/year so that the pool of clinic patients is in the vicinity of 750-1,000 with a new intake rate of close to 4-8% per clinic.
- NCDs and related complications accounted for almost 80% of the mortality within the Medical Ward and assuming all were clinic patients (which invariably they are and highlights the issue of non-compliance with management and clinic review) the attrition rate should be in the vicinity of 15-20% annually (taking into account amongst other things like emigration, voluntary defaulting, clinic discharges, clinical cure etc.). The 'clinic pool' would therefore be increasing at about close to 10% per year. These figures do not take into account the significant number of outpatients cases seen and reviewed in the Medical Ward.
- The bulk of overseas referrals for medical patients relate to rheumatic heart disease patients needing to undergo corrective valve surgery in the form of valve repair or replacement.

Inpatients Services:

- The total admissions for the year were 949 as compared to 1064 in 2005 and 1452 in 2004.

Table 54 Leading Causes of Admissions to the Medical Ward, 2006

Diseases	Total	Percentage
Miscellaneous/Non-categorised diagnosis	384	40
Cardiac related diagnosis	187	20
COPD	74	8
Diabetes related diagnosis	63	7
Stroke	62	6.5
Malignancy	41	4
LRTI/Pneumonia	41	4
GIB/PUD	40	4
Renal failure	35	3.5
Septicaemia	22	3
TOTAL	949	100

- There was a drop in the total annual number of admission from the previous year of close to 20%. This is surprising since there was a 15% increase in admissions with conditions considered as minor such acute viral illness, gastroenteritis.
- Cardiac conditions, diabetes and Chronic Obstructive Pulmonary Disease (COPD) continue to hold their top positions in terms of number of admissions, and a major increased with stroke and malignancy although the admission rates are still about the same as last year.
- NCDs and related complications account to close to 50% of the total admissions. The average length of stay/admission was about 5 days however, in certain chronic diseases like Chronic Obstructive Pulmonary Disease (COPD) where because of our inability to provide domiciliary oxygen their average length of stay was heavily skewed to the left by a factor of 4-5 times. This obviously has a great negative impact in terms of the financial and social burden of the disease and the loss of productivity (in terms of QALYS) both at the communal and national levels.

Mortality

A total of 110 deaths were recorded by the ward in comparison to 99 in 2005 and 91 in 2004.

Table 55 Medical Ward Mortality 2006

Causes of death	Total	Percentage
Cardiac related diagnosis	29	26
Stroke	20	18

COPD	14	13
Septicaemia	14	13
Malignancy	10	9
Renal failure	10	9
Miscellaneous/Non-categorised diagnosis	5	4.5
Diabetes related diagnosis	4	3.5
GIB/PUD	2	2
LRTI/Pneumonia	2	2
TOTAL	110	100

- NCDs and related complications again take the three top positions for the commonest causes of mortality at the Medical Ward. They account for close to 80% of total mortality even though they only account for 50% of the total admissions. There is an appreciable drop in deaths due to malignancy (dropped to equal fourth with renal failure) even though the number of admissions over the last two years has remained much the same.
- The proportion of deaths related to malignancy would have surpassed cardiac related diagnosis considering that a significant proportion of patients chose to spend their remaining days at home with loved ones and this is a reflection of the current cultural decorum regarding the 'dying entity/process'. Sepsis only accounts for less than 15% of deaths which is a reflection of disease transition phenomenon from infectious diseases to NCDs seen globally.
- The proportion of deaths due to diabetes has been diluted by the singularly-based cause of death classification. Diabetes is a disease with myriad presentations and is invariably involved in many of the deaths seen.
- Cardiac disease remains our biggest cause of death and efforts should be underway from a preventative perspective to address risk factors control and prevention. The National Health Strategies have been formulated and promulgated but the implementation of the various activities and steps have lagged considerably behind. Results of the STEPS studies should be available soon and should inform us on the status quo and where we should be heading. The PATH approach (physical activity, alcohol, tobacco and healthy eating) is the right direction to undertake but we need people with vested interests to guide the different process.
- We should be proactive and provide tertiary intervention options for our cardiac patients like PCI (angioplasty) or CABG. Most of these patients have CAD. We should be exploring options to provide them with HMG Co-A reductase inhibitors for lowering cholesterol.

8.4.4. Milestones

In providing its services, the following were identified as milestones during the year,

- Two second-hand ECG machines were donated from Drs Viliami and Saia Tutone of New Zealand.
- Dr. Sione Latu, SMO participated in the following workshops and trainings;
 - Japan WHO International Visitors Programme on NCD Prevention and Control in April, held at the National Institute of Public Health, Saitama Japan.
 - World Heart Federation First RHD Workshop for PICs Held in October, Nadi, Fiji.
 - Senior Managers' Health Network Workshop in December, Brisbane, Australia.
- Dr. Veisia Matoto completed her Postgraduate Diploma in Internal Medicine at Fiji School of Medicine. She is expected to continue with her Master for another three years.
- Dr. Louise Fonua left the Unit to join the Public Health Division (Communicable Disease Section) in July.
- Two new interns, Drs Selesia Fifita and Pita Pepa joined the unit in December.
- Commencement of work on Phase II of the New Hospital which include the Medical Ward. The Ward temporary relocated to the Old Obstetric Ward.
- NZMTS being handled by a new company headed by 'islanders' – Health Specialists Ltd (Mr. Kiki Maoate and Ms. Debbie Sorensen). Greater transparency, more accountability and reduced processing

time have already been noticed and appreciated. Both of these health professionals are keen on CPD for clinicians and have taken initiatives to develop this further.

8.5. Obstetrics and Gynaecology

Senior Medical Officer, Dr. Semisi. F. Latu is responsible for managing this ward and is supported by 2 Senior Medical Officers and 12 nursing staff.

8.5.1. Objectives

The wards objectives are:

Obstetrics

KRA 1: Staff Training and Development.

- Postgraduate training for career doctors in Diploma in Obstetrics and Masters in Obstetric and Gynaecology as required.
- Local midwifery training course to cater for the needs of the whole health service.

KRA 2: Improved facilities and equipment.

- Obtain mobile ultrasound machine for emergency use in the obstetric ward.

KRA 3: Provide good quality service

- Introduce antenatal STI Surveillance in Vaiola Hospital.

KRA 4: Increased Public Awareness/ Safe Motherhood Package

- Information leaflets and media production.

Gynaecology

KRA 1: Improved gynaecological services

- Pep smear screening for cervical cancer in gynaecology outpatient clinic.

KRA 2: Increased staff skills

- Clinical attachment of nursing staff to an overseas hospital.

KRA 3: Increased awareness of gynaecological issues in the community

- Information leaflets and media production.

8.5.2. Functions

The wards functions are:

- Conduct and supervise the antenatal clinic.
- Conduct and supervise the gynaecological clinic.
- Provide family planning services, including contraception and infertility services.
- Provide obstetrics services to all patients admitted in pregnancy, labour, and puerperium.
- Provide services to all patients admitted with gynaecological problems.
- Advise and/or provide service to all obstetric and gynaecological cases referred from health centres, private clinics, and district hospitals in the outlying islands.

8.5.3. Financial Allocations

The ward was allocated \$4,000.00 for the purchase of equipment and supplies.

Table 56 Summary of the ward activities 2001-2006.

No	Activities Item	2001	2002	2003	2004	2005	2006
1	Induction of labour	130	124	210	171	186	200
2	Augmentation of labour	488	496	515	450	412	465

3	Still birth rate	11.8	9.7	10.9	7.26	9.6	8.89
4	Postpartum haemorrhage (PPH)	62	73	56	46	45	23

- Most cases of induction of labour at Vaiola Hospital are due to pre-labour srom, hypertension, diabetes, post-term gestation or non-reassuring fetal status.
- When cervix is unfavourable, pre-induction cervical ripening with either prostin E₂gel or misoprostol (cytotec) tablets. Prostion E₂gel is expensive while cytotec is cheap but are both effective.
- Augmentation of labour total number per year for the past 6 years has been static.
- Still birth rate over the past 6 years, there is a gradual reduction.
- Early neonatal death for the year was 9 while perinatal mortality rate is 13.1 per 1,000 total deliveries.
- Primary PPH is the most causes of maternal death in the Kingdom, 23 out of the 26 cases were primary and 3 were secondary.
- Good care of patient during labour and delivery including prophylactic syntocinon infusions and using protocol for immediate post delivery care largely contributed to the above reduction in PPH.

Table 57 Gynaecological Cases in Surgical Ward 2006.

Leading Cases	Total Number
Abortion	40
DUB	35
Non – specific p.v. bleeding	23
Ovarian cyst	22
Uterine fibroid	14
Endometritis/ PID	9
Ectopic pregnancy	8
Total	199

Table 58 Leading cases of operations in the ward 2006

No	Name of cases	Total Number	Percentage %
1	Lower segment caesarean section	264	52.1
2	Tubal ligation	84	16.6
3	D&C/suction Curettage	76	14.9
4	Ovarian cystectomy/ oophorectomy	35	6.9
5	Total abdominal hysterectomy	24	4.7
6	Salpingectomy/ tubal pregnancy	12	2.4
7	Examination under anaesthetic	12	2.4
Total		507	100

8.5.4. Milestones

In providing its services, the following were identified as milestones during the year,

- Continued ongoing inservice training.
- A Quality Reproductive Health Care Workshop was carried out on 15-21 September 2005 at the Obstetric Ward, Vaiola Hospital. This was held from 4.00 – 8.00pm to make time for the nursing staff to attend.
- Dr. M. Taumoepeau attended a Reproductive Health Technical Workshop on Maternal death in Fiji with Sr. Sela Paasi and Sr. Afu Tei on 29th May to 9th June 2006.
- Dr. Salesi Katoanga WHO Consultant visited Tongatapu from late November to December 2006 to conduct a workshop on Maternal Death Auditing. From this workshop the following were introduced and discussed.

- Maternal death auditing and the recommended procedure for processing it.
- Establishment of auditing team or designated health professional/ personnel.
- Review and discussion of draft auditing reports of maternal death cases in Tonga.

The whole aim of this workshop and establishment of local audit team is to improve quality care to mothers and babies and to help making pregnancy safer.

- The Obstetric Department was transferred to the new maternity wing of Vaiola Hospital on 21st August and this new infrastructure was an instant professional uplift and the sense of improving the quality of this service delivery was paramount.

8.6. Anaesthesia and Intensive Care Unit

Anaesthetist Specialist, Dr. Bernard Tu'inukuafe is responsible for managing these services and is supported by 1 Senior Medical Officer and 1 Senior Health Officer.

8.6.1. Objectives

The section's objectives' are:

- To ensure a continuous level of high standard anaesthetic services.
- To assist as much as possible in intensive care management.
- To continue education and training of ICU and anaesthetic staff.
- To maintain a high level of equipment, drugs and facilities.

8.6.2. Functions

The section's functions' are:

- Provide a safe and high standard of anaesthetic services to patients undergoing operative procedures.
- Assist with the intensive care management of critically ill patients.
- Provide pre anaesthetic and postoperative assessment and care of patients.
- Assist with the resuscitation and transport of critically ill patients.

8.6.3. Financial Allocations

The section was allocated \$10,000.00 and was utilized for purchase of equipment.

Table 59 Summary of activities performed during the year 2006

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
No. of GA	114	81	105	103	130	116	101	113	94	126	110	92	1285
No. of Spinals	21	33	46	29	49	28	20	35	17	24	23	24	349
No. of Blocks	19	15	7	5	7	14	17	16	9	8	14	16	147
No. of Sedations	1	-	5	2	2	5	2	1	-	5	3	7	33
No. of Locals	81	42	46	34	53	36	104	45	44	22	43	49	515
												Total	2329

Table 60 Admission for Intensive Care Unit for the year 2006

	Total
Number of patient	84
Number of ventilated patient	9
Number of adults	62
Number of children	22
Males	44
Females	40
Number survived	76
Number died	8

8.6.4. Milestones

In providing its services, the following were identified as milestone during the year,

- Dr Ma'ata Sikalu and Dr Benard Tu'inukuafe attended a one week refresher course of the Pacific Society of Anaesthetists in Suva, Fiji in October 2006.
- Two anaesthetists from the Royal Hobart hospital in Tasmania, Australia undertook a one month locum in the later part of 2006.
- The ICU, Anaesthetics moved into the new hospital block in September 2006.
- Dr Benard Tu'inukuafe attended a one month attachment at the Royal Hobart Hospital, Tasmania in November – December 2006.
- Dr 'Alani Tangitau graduated with a Masters Degree in Anaesthesia in 2005 and joined us at the beginning of 2006 before being transferred to Vava'u.

8.7. Mental Health

Senior Medical Officer, Dr Mapa Puloka is responsible for managing mental health services and is supported by 7 Nursing Staff, 1 Mental Health Welfare Officer, 1 Psychiatric Social Worker and 4 Psychiatric Assistants.

8.7.1. Objectives

The section's objectives' are:

- To ensure the continuity of skilled and committed staff.
- To improve the quality follow-up of psychiatric patients, eg. the establishment of a half way house is a need indeed.
- To develop mental health services in the outer Islands.
- To promote knowledge in mental health and dissolve misconceptions, stigmatization, ignorance and discrimination.
- To implement legislation especially the provisions of the current Mental Health Act No. 8 of 2001.
- To develop network.
- To improve the interdisciplinary management of psychiatric in-patients.
- To purchase appropriate equipment for management of psychiatric in-patients.

8.7.2. Functions

The section's functions' are:

- Treat and contain acute psychiatric cases and emergencies.
- Treat and rehabilitate chronic psychiatric cases.

- Provide psychiatric care to patients who have suffered institutionalization and to continue the process of deinstitutionalization.
- Treat and contain forensic psychiatric cases according to the provision of the Mental Health Act 2001.
- Follow-up outpatient cases and to continue psycho-social rehabilitation (PSR).
- Implement an “Open Door Policy” for drop in cases with psychiatric problem and respite care. Patients admitted via open door policy are known as “revolving door patients” or RDP.
- Ensure active participation in matters related to the promotion of mental health

8.7.3. Financial Allocations

The section was allocated \$83,251.00 and was utilized for the purchase of supplies and equipment.

Table 61 Summary of community based activities performed during the year 2006

Activities	Number
Number of admission via section 23 of the Mental Health Act 2001 (02/01/05 – 31/12/05)	100
Number of Mental Health Review Tribunal (MHRT) Meeting in 2005	28
Number of applications for extended orders to the Mental Health Review Tribunal (MHRTC) were approved	49
Number of Community Treatment Orders issues	24
Number of consultation Liaison Psychiatry (CLP) for the year 2005	7
Number of admissions pursuant to the requirement of the Criminal Offence Act	2
Number of home visits for the year 2006	2823
Number of new outpatients for the year 2006	49
Number of attendants for the Psychiatric Special Outpatient Clinic (SPOC)	528
Total number of deaths for the year 2004 (all outpatient) (Causes of death: - 4 unknown - 1 Gastro-intestinal bleeding - 1 cancer - 1 suicide)	7

8.7.4. Milestones

In providing its services the following were identified as milestones during the year:

- Ms ‘Emeline Pupunu, Staff Nurse attended a 3 month attachment in New Zealand on ‘Hands on’ in the area of Drugs and Alcohol.
- The unit has been blessed by continuous annual donations from church and community members such as the “Toakase” (Seventh Day Adventist), ‘Fekau’aki ‘a Fafine (Catholic). During the festive season, the Fofa’anga Club provide meals and gifts for patients.
- For the last six years, Malapo Quarry has donated food, clothes and toiletries for patient use.
- Mental health has been incorporated into the Sia’atoutai Theological College curriculum and is single semester course.
- The lecture on Abnormal Psychology continues to be delivered by the SMO, Dr Puloka at ‘Atenisi.

8.8. Operating Theatre

Nursing Sister Tangiketatau Taulanga is responsible for managing this service until July when Sr ‘Elaine Faletau took over and is supported by 1 Senior Sister, 1 Senior Staff Nurse, 12 Staff Nurses and 2 support staff.

8.8.1. Objectives

The section's objectives are:

- To ensure surgical care provided is professionally planned, implemented and evaluated and can be administered in an efficient and cost-effective manner.
- To ensure knowledgeable and skilled nursing personnel are employed to meet the patient's needs during surgical intervention.
- To ensure a safe and therapeutic environment is provided for both patients and personnel.
- To acquire and use appropriate equipment and supplies for all operative procedures.
- To ensure educational opportunities are available to encourage individual motivation and growth of staff.
- To ensure the Operating Theatre has adequate staffing levels.
- To maintain quality standards and best infection control.

8.8.2. Functions

The section's functions are:

- Theatre staff and ICU staff work together as a team in order to minimize the work load, especially when there is shortage of staff.
- Provide high quality services whether it is pre-operative or post-operative or during the operation.
- Be professional at all time including cost effective and to comply with the ethical principles of the Ministry of Health.
- Explain to the patient the theatre procedure in both pre-operative and post-operative to reduce patient anxiety.
- Share responsibilities for the recruitment of staff.

8.8.3. Financial Allocations

The section was allocated T\$5000.00 and was utilized for the purchase of supplies and medical equipment.

8.8.4. Milestones

In providing its services, the following was identified as milestone during the year,

- Grant Aid from the government of Japan provided laparotomy instrument set, ophthalmology surgery instrument, ENT surgery instrument and gynaecology instrument set.
- The club foot team visited and donated supplies and equipment.
- A plastic surgery visited and donated supplies and equipment.
- Training of new staff on Operating Theatre procedures.
- Ward meeting every month to inspire the staff perform at the highest possible level.
- Eye, Interplast and club foot team from Australia visited during July-October 2006.

8.9. Ophthalmology

Medical Officer Special Grade Dr Paula Vivili is responsible for managing this section and is supported by 1 Health Officer and 1 Nursing Staff.

8.9.1. Objectives

This section's objectives are:

- To ensure that Eye care is considered as a priority area.
- To provide appropriately trained staff to carry out primary care education of the public.

- To provide adequately equipped facilities to ensure provision of quality eye care at all.
- To strengthen cataract services and develop an audit of outcomes.
- To develop an appropriate diabetic eye disease screening and management programme.
- To provide low cost glasses.
- To develop a system for assessing and detecting the extent of eye problems in Tonga.
- To develop a system for the delivering of eye care services both centrally and also an outreach component.

8.9.2. Financial Allocations

The section was allocated \$10,000.00 for Technical Equipment which is used to support services of the section. A large amount of equipment and consumables are provided by visiting teams. The section provides all the Eye Care equipments of the country and staff undertake outreach trips to the outer islands to provide these services. Referrals are also made to the section from the outer islands.

The section continued to benefit from services provided by visiting teams. Their contribution both in expertise and equipment plays an integral role in the Section's ability to provide the services it does. The following teams visited during the year.

- Pacific Island Project (AusAID, Australia)
- Volunteer Ophthalmic Services Overseas (NZ)

8.9.3. Milestones

In delivering its services, the following were identified as milestones during the year,

- **Workshops**
 - A one week workshop on Primary Eye Care was conducted by the Eye Clinic Staff and participants involved Clinical Nurse, Public Health Nurse and Health Officers.

8.10. Ear Nose Throat

Senior Medical Officer, Dr. Lei Saafi is responsible for managing this specialty service and is supported by 1 Medical Officer and 1 Staff Nurse.

8.10.1. Objectives

- To promote cost-effective patient management through;
 - Providing high standard clinic management techniques
 - Faster but safe discharge of patients from the wards
- To improve the service by upgrading management techniques.
- To recruit and train 1 more ENT Surgeon.
- To establish a new audiometry service.
- To provide 'on the job training' to the staff.
- Provide health education especially to parents on ear hygiene, prevention of foreign bodies lodging in ENT areas.
- To reduce overseas referrals.
- To reduce morbidity and mortality from middle ear and mastoid infections.
- To secure opportunities for continuing education for staff.
- To undertake regular visits to the outer islands.

8.10.2. Functions

The Clinic's functions are:

- Provide 24 hour coverage for in-patients and all acute emergencies at OPD.
- Manage all ENT problems and their complications, both in outpatient and inpatient.
- Perform weekly (Monday) ENT routine operations.
- Conduct four weekly Out Patient sessions for new patients and follow-up.
- Establish and maintain links with Health Centres, district hospitals and private practitioners.
- Keep proper recordings for the section.
- To provide care for all those suffering from diseases of Ear, Nose, Throat, head and neck leg oris including management of cancers of these areas
- To provide emergency care for:
 - upper airways obstruction
 - Care for trauma case especially for head and neck injuries.
- Teaching of local staff.

8.10.3. Financial Allocations

The section was allocated \$5,000.00 for the purchase of supplies and equipment.

8.11. Emergency and General Outpatients

Medical Officer Special Grade, Dr. Lemisio Sa'ale is responsible for managing this section and is supported by 6 Medical Officers, 1 Senior Health Officer, 13 Nursing Staff and 2 support staff.

8.11.1. Objectives

The section's objectives are:

- To improve quality of services for patients seeking emergency and outpatient care.
- To provide ongoing training of staff (doctors and nurses).
- To improve its management and planning.
- To improve relationships with other disciplines within the hospital.

8.11.2. Functions

The section's functions are:

- Provide in-hospital emergency and outpatient services
- Provide pre-hospital emergency ambulance services.

Pre-Hospital Emergency Ambulance Services

- This service has been implemented and further improvements are needed in area of equipment, staffing and ongoing education of staff.

In-Hospital Emergency and Outpatient Services

- Emergency cases are transferred immediately to the Emergency Room (ER).
- All other patients are registered and triage using the international triage system (1 to 5). They are seen according to their triage scale.

8.11.3. Financial Allocations

The ward was allocated \$4,000 and was utilized for implementation of its activities.

Table 62 The table summarizes the six main services provided by the department

Service	2006	2005	2004	2003
Consultations	53,839	69,064	67,329	70,577
Emergencies	1,165	535	593	839
Dressings	5,872	7,196	6,354	5,715
Minor Operations	39	325	584	836
Nebulizations	2,575	4,380	4,072	3,174
Ambulance	33	43	45	43

Table 63 The table reflects the trends for the last ten years

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Emergencies	381	396	415	731	793	983	839	593	535	1,165
Dressings	31,092	43,992	41,672	13,029	13,782	15,504	5,715	6,354	7,196	5,872
Minor Ops.	600	744	1,127	1,044	1,020	655	836	584	325	39
Nebulization	5,255	6,128	3,789	4,065	4,855	4,619	3,174	4,072	4,380	2,575
Consultations	61,992	67,636	62,789	71,049	60,606	87,139	70,577	67,329	MR	53,839
Admissions	3,586	4,188	4,144	4,445	4,030	3,470	MR	MR	MR	6,851

Table 64 Other activities performed per month in 2006 in comparison to 2005

	Dressing		Injections		Minor Ops		Nebulizes	
	2006	2005	2006	2005	2006	2005	2006	2005
Jan	436	714	167	516	19	28	305	401
Feb	472	653	168	812	3	35	183	368
Mar	672	678	122	550	-	35	233	390
Apr	99	597	155	490	-	28	225	380
May	900	536	150	472	-	27	398	392
Jun	292	547	159	494	5	35	135	438
Jul	497	639	147	310	5	26	153	400
Aug	387	600	161	414	-	20	172	316
Sep	311	480	147	485	-	11	180	324
Oct	406	546	166	506	1	20	191	300
Nov	497	605	143	458	6	31	228	381
Dec	902	601	138	579	-	29	172	290
TOTAL	5,872	7,196	1,823	6,086	39	325	2,575	4,380

- Minor operations has been poorly recorded resulting in very low numbers
- Injections was mainly Benzathine penicillin for rheumatic patients

An average daily activities consist of:

- Consultations - 148
- Emergencies - 3
- Dressings - 16
- Nebulizations - 7
- Injections - 5
- Others - (minor OPS., Electrocardiograms etc.)

Table 65 Emergency cases per month in 2006 in comparison to 2005

Year	Admission		Discharge Home		Death On Arrival		Emergency Death	
	2006	2005	2006	2005	2006	2005	2006	2005

Jan	57	32	7	5	7	4	2	4
Feb	51	38	9	7	4	5	1	0
Mar	74	48	21	7	7	1	3	3
Apr	61	32	11	9	1	4	1	1
May	65	45	10	8	5	2	-	0
Jun	54	35	13	5	6	3	1	1
Jul	69	37	15	5	5	2	1	1
Aug	71	12	16	1	5	6	3	3
Sep	94	16	5	3	3	3	4	0
Oct	123	20	5	4	-	8	2	0
Nov	117	33	11	5	6	2	-	0
Dec	105	59	26	11	8	2	1	3
TOTAL	941	407	149	70	57	42	19	16

- 81% of all emergencies were admitted and 13% were sent home on medications and 6% recorded as deaths.
- Of all admissions from Emergency Room:
 - 52% to medical ward
 - 29% to surgical ward
 - 17% to paediatric ward
 - 1% to ICU
 - 1% to obstetric ward
- Mortalities were highest during March with a total of 10 (7 DOA and 3 ER death)

8.11.4. Milestones

In providing its services, the following were identified as milestones during the year,

- Due to shortage of staff, other sections continued to support by covering 3 shifts per week. (Saturday pm and night, Sunday am)
- The Ministry has agreed in principle to maintain the number of Doctors working at the ED to at least 7. In so doing, Doctors and Health Offices from other sections can be relieved.
- Dr Kyan Ahdieh started at the ED since mid 2006 mainly at the development of the department. There has been obvious improvement in various areas.
- Emergency Nurse Cheryl Pretty of St. John of God Hospital, Australia visited the department and conducted teaching sessions and workshops.
- Dr Bhavani Peddinti of Middlemore Hospital, New Zealand visited for a week in February.
- Dr Matamoana Tupou is doing a Master in Health Science (Emergency Medicines) for 2 years in New Zealand
- Dr Lemisio Sa'ale proceeded on a 8 months WHO Fellowship in Emergency Department, Middlemore Hospital, New Zealand.
- Dr Sione 'Akau'ola participated a 1 month attachment in St. John of God Hospital, Ballarat, Australia.

8.12. Clinical Support Services

8.12.1. National Centre for Diabetes and Cardiovascular Diseases

Chief Medical Officer, Clinical Services, Dr. Taniela Palu is responsible for managing the Centre and is supported by 2 Nutritionist and 3 Nursing staff.

8.12.2. Objectives

The Centre's principle objectives are:

- To prevent or delay the onset of complications caused by diabetes and cardiovascular diseases, and to improve their management hence ensuring a more productive and healthy population.
- To participate and support the establishment of National policies for the integrated prevention and control of diabetes and cardiovascular diseases.
- To develop and implement integrated strategies for the prevention of diabetes and cardiovascular diseases, with emphasis on primary prevention and promotion of healthy lifestyles.
- To increase community-based detection and control of diabetes and cardiovascular disease.
- To establish or strengthen the management of diabetes and cardiovascular diseases and their complications (Tertiary prevention).
- To establish and strengthen appropriate epidemiological surveillance and monitoring for diabetes and cardiovascular disease and their risk factors.
- To further strengthen the development of human resources and research for the prevention and control of diabetes and cardiovascular disease.
- To further strengthen the development of human resources research for the Prevention and control of diabetes and CVD

8.12.3. Functions

The Centre's functions are:

- Provide specialist care for all-inpatients and out patient diabetics in Tonga.
- Provide advice on diabetic management to other hospitals and health centres.
- Provide education and training for health workers on diabetes and NCD.
- Work closely with the Health Promotion and NCD Section of the Public Health Division on prevention strategies relating to diabetes and NCD risk factors intervention and management.
- Advise the Hon. Minister of Health and Director of Health of the National Plan for the prevention and control of diabetes and cardiovascular diseases.
- Provide advice to other Ministries on issues relating to diabetes and cardiovascular disease through the National NCD Committee and participate in the subcommittees of the National NCD.
- Provide screening service for risk factors and early detection of diabetes and cardiovascular disease.
- Serve as a referral centre for diabetes and cardiovascular diseases.

Daily Activities of the Diabetes Centre

- The Diabetes Centre operates from Monday to Friday. Reasons for visits are:
 - Clinic appointments
 - Rebook of appointments or refill of medications
 - Screening for diabetes
 - Clarification for dental extraction
 - Dressing of wounds and ulcers
 - Offer advice on Diabetes management to community
 - Health workers regarding diabetic patients managed at
 - The Health centres.

The following table displays these activities as well as the number of new cases of diabetes and the number of patients who had HbA1c tests.

Table 66 Daily Attendance

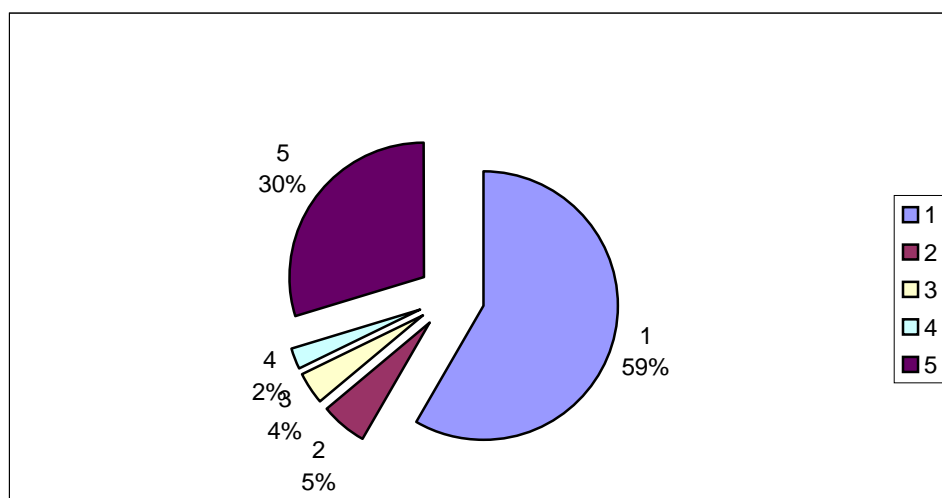
Month	Clinic	Refill/Rebook	Screening	New Cases	Dental	HbA1c	Dressing	TOTAL	Home visit
January	362	74	34	11	21	3	285	790	

February	616	76	31	9	18	7	300	1057	
March	673	61	47	15	17	8	409	1230	
April	521	10	34	8	10	4	284	871	184
May	387	44	45	23	23	9	259	790	
June	639	40	46	13	26	36	272	1072	
July	502	69	32	16	30	12	261	922	157
August	722	32	44	24	30	5	265	1122	
September	586	38	34	12	19	10	320	1019	
October	689	68	52	27	25	101	308	1270	144
November	561	67	37	20	20	1	235	941	
December	404	49	24	12	22	0	210	721	
TOTAL	6662	628	460	190	261	196	3408	11805	485

This is a representation Looking at the distribution of the activities carried out at the Diabetes Centre shows the following presentation:

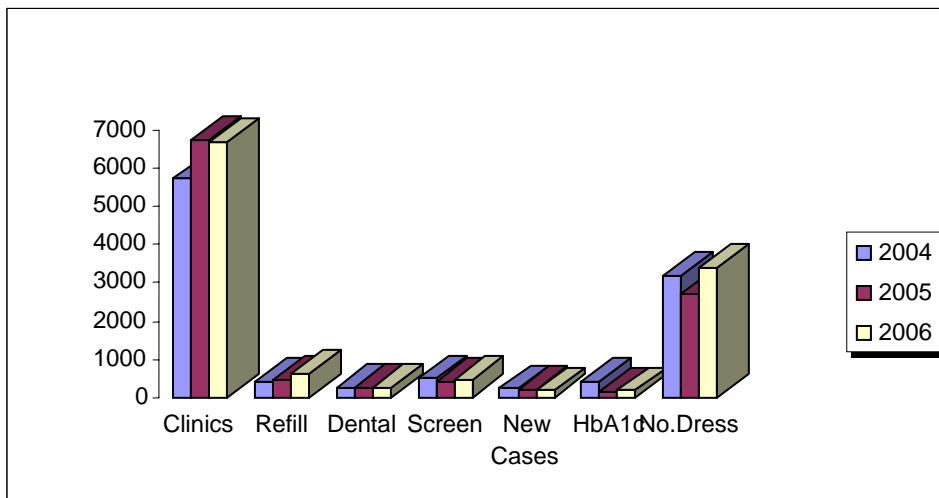
- clinic
- rebook and refill
- screening
- dental clarification
- dressing of wounds and ulcers

Table 67 Activity Distribution



The graph below shows the trend in the activities from 2004 to 2006. The marked difference is shown in the clinic appointments and the number of dressings.

Table 68 Activity Trend 2004 - 2006

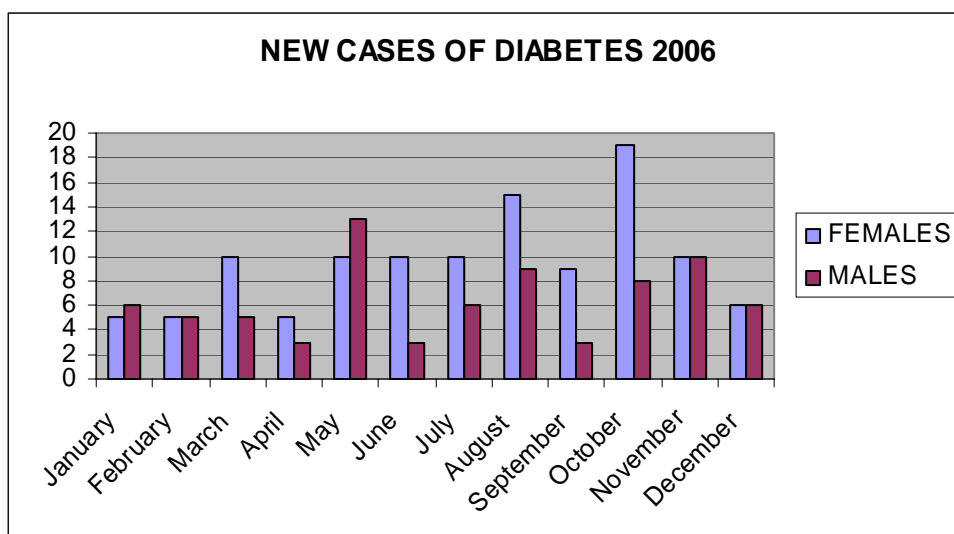


New cases of diabetes

41% of those who presented to the Diabetes Centre for screening were diagnosed to have diabetes, making a total of 191 for 2006. Screening is carried out at the Centre where clients are required to fast and to be tested before 10.00 AM. A fasting blood glucose of ≥ 7.0 mmol/L signifies diabetes and diagnosis is based on the Global Guideline developed and reviewed by IDF in 2005.

Table 69 New Cases - 2006

MONTH	FEMALES	MALES	TOTAL
January	5	6	11
February	5	5	10
March	10	5	15
April	5	3	8
May	10	13	23
June	10	3	13
July	10	6	16
August	15	9	24
September	9	3	12
October	19	8	27
November	10	10	20
December	6	6	12
TOTAL	114	76	190



Dressing of wounds and ulcers

Dressing for diabetic patients with ulcers and wounds is routinely performed on Monday, Wednesday and Friday or as required.

Table 48 reports the total number of dressings performed each month, the number of diabetic patients admitted for sepsis from the Diabetes Centre and the number of amputations due to diabetic sepsis. The number of admissions does not include admission from Out Patient Department for diabetic sepsis.

Table 70 Diabetic Sepsis for 2006

Month	No. of Dressing	Admissions	Amputations
January	210	5	2
February	235	5	2
March	259	1	2
April	261	3	2
May	265	4	2
June	272	4	2
July	284	8	2
August	285	2	1
September	300	4	1
October	308	4	1
November	320	5	1
December	409	1	1
TOTAL	3408	46	19

The number of amputations in the last 3 years has increased as well as the number of admissions. However, records from the ward shows that the length of stay is generally shorter which reflects early presentation of wounds. The numbers for dressings, admissions and amputations include all diabetic patients followed up at the Diabetes Centre, from the outer islands hospitals, newly diagnosed cases as well as known diabetics residing overseas.

Year	Admissions	No. of amputations
2004	34	11
2005	28	18
2006	46	19

Community outreach – Home visits

A quarterly home visit programme is conducted for diabetic patients with serious complications and disability and have difficulty accessing the Diabetes Centre or the Health centres. A total of 157 patients are seen in this programme. The following table shows the districts and villages and the number of patients visited in each village.

Table 71 Home visits

District	Villages	No. of patients
Vahe Hahake No.1	'Alaki	1
	Tatakamotonga	4
	Haveluliku	2
	Fatumu	5
	Ha'asini	2
	Fua'amotu	2
Vahe Hahake No.2	Malapo	4
	Lapaha	2
	Makaunga	2
	Navutoka	1
	Talafo'ou	1
	Manuka	1
Vahe Hahake No.3	Kolonga	5
	Folaha/Nukuhetulu	5
	Longoteme	1
	Vaini	10
Vahe Loto	Tofoa	6
	Tokomololo	1
	Pea	1
	Ha'ateiho	6
	Veitongo	6
Vahe Hihifo No.1	Hofoa	1
	Fatai	4
	Nukunuku	5
	Te'ekiu	2
	Fo'ui	3
	'Ahau	2
	Ha'atafu	2
Vahe Hihifo No.2	'Utulau	5
	Ha'alalo	4
	Ha'akame	4
	Houma	5
	Fahefa	5
Nuku'alofa No.1	Fanga	2
	Pahu	2
	Ngele'ia	1
	Pili	2
	Ma'ufanga	10
	Popua	2
Nuku'alofa No.2	Havelu	6
	Vaololoa	2
	Longolongo/Tu'atakilangi	4
	Kolofo'ou	3
Nuku'alofa No.3	Fasi	5
	Kolomotu'a/Halaano	12

	Halaovave	5
	Sopu	2

8.12.4. Milestones

In providing its services, the following were identified as milestones during the year,

- **Community Outreach programme.**
The Diabetes centre conducted a quarterly home visit to diabetic patients with serious complications and disability and are unable to travel to the Diabetes Centre or the Health Centres for follow up. A total of 157 patients were seen in 9 districts in Tongatapu.(Appendix 1)
- **Annual Duty visit to outer island hospitals**
The annual duty visit to the outer island hospitals was carried in May where the team visited the diabetes clinics in each respective hospitals to conduct clinics as well as on the job training for the staff.
- **Development of education package for diabetic patients**
The package contains a collection of booklets on topics related to diabetes management. These topics include:
 - Background information on diabetes and NCD in Tonga.
 - Current epidemic of diabetes in Tonga.
 - Risk factor screening and management.
 - Diabetes and NCD.
 - Complications of diabetes.
 - Management of diabetes.
 - Additional information regarding the Diabetes Centre.
 This package is still awaiting funding for printing before it is made available to patients and public.
- **In-service training to nursing staff of Vaiola Hospital wards.**
This programme was initiated in 2000 where Sr Seilini Soakai organised staff of the Diabetes centre to conduct trainings with ward staff on diabetes management using a developed protocol. Due to other commitments and shortage of staff, this programme was discontinued until November, 2006 when it was realized that continuity of training is essential to the service. This programme will continue in 2007 and to ensure that all wards are included and all nursing staff attend.
- **Analysis of the National NCD and STEPS Survey, 2004.**
Analysis of the National NCD and STEPS Survey, 2004 was undertaken at the Prince of Wales Hospital. 'Elisiva Na'ati attended a workshop organized by WHO in Suva, Fiji to analyse the results from the survey using Epi Info. Two sets of results were produced. One was for the age group of 15 – 65 years old and the other for the 25 – 65 years old. (Appendix 2 and 3). The nutrient analysis is yet to be completed.
- **Conference attendance**
- Dr. Taniela Palu, Sr Seilini Soakai and Ms. 'Elisiva Na'ati were invited to attend a three days conference on Diabetes in Indigenous Peoples which was held in Melbourne, Australia in November. A poster presentation of the results of the School Children Nutrition and NCD Survey, 2004 was also displayed at the conference. This conference was organized by the International Diabetes Federation, WHO and Diabetes Australia.
- **Diabetes Care of Patients with diabetic sepsis**
Dr Palu commenced daily review of diabetic patients admitted to Surgical Ward as from the beginning of October as well as restarting the combined ward round with the Surgical Team. In this ward round he attends to the newly diagnosed diabetic patients admitted with sepsis and also closely monitor glycaemic control to enhance wound healing and thus avoid amputation.

8.13. Nutrition and Dietetic

Two (2) Nutritionists are responsible for managing the section. One has been on special leave since December 2003.

8.13.1. Objectives

The section's objectives are,

- To develop and implement integrated strategies for the prevention of non communicable diseases with emphasis on health promotion and healthy lifestyles.
- To increase community awareness of risk factors and to decrease the incidence of non communicable diseases.
- To strengthen patient education to inpatients and outpatients.
- To enhance and maintain nutritional status of patients.
- To ensure that inpatients receive well and appropriate healthy diet while in the hospital.

8.13.2. Functions

The section's functions are,

- Provide special care for all inpatients and outpatients with diet related problems.
- Provide advice on nutrition to the public.
- Provide education and training for all health workers on nutrition and related topics.
- Work closely with the Public Health section on health promotion issues.
- Provide advice to other Ministries on nutrition issues through the National Food and Nutrition Committee, Ministry of Education and Non-Government Organisation.

A Diet Clinic operates on Tuesdays and Thursdays and follow up of diabetic patients is performed daily and inpatients are seen as referred.

Table 72 Outpatients - Diet clinics for diabetics on Tuesdays and Thursdays

Month	No. of patients attending
January	43
February	35
March	24
April	22
May	34
June	31
July	39
August	45
September	37
October	40
November	32
December	27
TOTAL	409

Table 73 Medical Gas: Oxygen produced at the Vaiola Oxygen Concentrating Plant

Ward	No. of referrals
Medical	55
Surgical	36
Paediatrics	0
ICU	7

Types of inpatient referrals

Type of case	Number
Diabetes	91
Hypertension	23
Lipid lowering	20
Weight reduction	50
Malnutrition	0
High protein	5
Tube feed	13
TOTAL	202

8.13.3. Milestones

In providing its services, the following was identified as milestones during the year,

- Ms 'Elisiva Na'ati attended a workshop in Suva, Fiji organized by WHO to analyse the STES survey using Epi Info. The fact sheets containing the summary of the results are attached to the National Diabetes Centre Annual Report.
- Ms 'Elisiva Na'ati attend the conference on Diabetes in Indigenous peoples with emphasis on Nutrition, screening, diabetes in children and GDM. This conference was held in Melbourne in November. A post was presented with the results of the school children nutrition and NCD survey conducted in 2004.

8.14. Laboratory

Dr. Siale 'Akau'ola, Medical Superintendent is responsible for managing this section and is supported by 27 technical, 2 clerical and 3 supporting staff.

8.14.1. Objectives

The sections objectives are:

- To provide quality laboratory services at all times.
- To promote staff development through continuous education and training.
- To provide a safe and productive working environment.
- To improve communication and problem solving skills.
- To upgrade laboratory capability in Outer Island Laboratories.
- To comply with the law and statutes of the Kingdom of Tonga.

8.14.2. Functions

The sections function is:

- Provide customers with high quality cost effective services in all aspects, and the standard of such services to comply with or exceed all accepted ethical and professional principles, as embodied in any accreditation criteria that may, at some time, apply in Tonga.

8.14.3. Financial Allocations

The section was allocated \$136,100 and was utilized for purchase of office supplies, technical equipment and supplies, medical supplies, overseas laboratory costs, health laboratory costs, and hospital supplies (blood transfusion).

Table 74 Number of major pathogens isolated throughout the Kingdom during the Year 2006

Particulars	2006	%
Salmonella typhi	7	1.23%^
Other Salmonella	4	0.71%
Shigella	26	4.59%
Escherishia Coli	163	28.75%
Klebsiella	57	10.05%
Proteus	45	7.94%
Pseudomonas	34	6.00%
Staph Aureus	134	23.63%
Enterobacter Species	40	7.05%
Haemophilus	24	4.23%
Neisseria Gonorrhoea	32	5.64%
N. Meningitidis	1	0.18%
TOTAL	567	100%

8.14.4. Milestones

In providing its services, the following were identified as milestones during the year,

- Mr Fe'ofa'aki Nonu attended the GSS Regional Training Course held in Fiji from 23rd to 27th October 2006.
- Ms Mary Fakahau attended the 3rd Stop TB meeting in Noumea, New Caledonia from 29th July to 4th September 2006.
- Mr Sitanilei Hoko has successfully completed his Bachelors degree and has resumed duty in 2006.
- Mr Siale Finau, Senior Laboratory Technician is still continuing with his study in New Zealand in 2006.
- A computer and printer was donated by AusAid for donor recruitment work and data collection in the Blood Transfusion Unit.

8.15. Radiology

Dr. 'Ana 'Akau'ola, Senior Medical Officer is responsible for managing this section and is supported by 8 technical and 1 clerical staff.

8.15.1. Objectives

The section's objectives are:

- To provide good quality x-ray and ultrasound services at all times in order to assist the clinicians at arriving at right diagnosis of patients undergoing investigation.
- To work well together with other medical staff so as to provide satisfactory radiological diagnostic service.
- To ensure staff knowledge and skills are up to standard by providing ongoing on the job education at all time.

8.15.2. Functions

The section's function is:

- To provide radiological diagnostic services to all patients.
- To liaise closely with doctors and health officers ordering investigations so as to arrive at right diagnosis if possible.

- To provide information to doctors and health officers as well as patients if requested on possible outcome of investigation.

Table 75 Ultrasound examinations performed - 2006

Examination	No. of cases in 2005	No. of cases in 2006
Obstetric	1487	1651
Pelvis	966	857
Upper Abdomen	922	228
Small parts breast, thyroid, testis	226	88
Others	37	50
Echocardiogram	370	211
Total	4008	3085

- There was no significant differences in number of examinations performed in 2006 as compared with the previous year.
- Request for obstetric ultrasound remain the most common request.
- There was a significant decrease in number of requests for ultrasound of abdomen in 2006 as compared to 2005 (228 vs 992). This significant decrease in number cannot be understood by radiology.
- There was also a decrease in the examination of small parts.
- The number of examinations performed depend on number of requests as well as availability of technician performing examination.

8.15.3. Financial Allocations

The section was allocated \$45,500.00 and was utilized for the purchase of technical equipment, medical and office supplies.

8.15.4. Milestones

In delivering its services, the following were identified as milestone during the year:

- Two of our staff namely Mr Lopeti Heimuli and Mr Piisi 'Ahosivi opted for the voluntary redundancy. We miss both these gentlemen at our section. We wish them all the best in their future endeavours.
- The section moved to the new building in August. Everyone are enjoying this new section and the new equipment that came with it. For this, we are very grateful to the Government of Japan.

8.16. Pharmacy

Principal Pharmacist, Mrs. Melenaita Mahe is responsible for managing this section and is supported by 30 established staff.

8.16.1. Objectives

The section's objective is,

- To provide good quality, safe, effective and affordable essential drugs and standard medical supplies at all times to all the people of Tonga and ensure its rational use.

8.16.2. Functions

The section's functions are:

- Ensure availability of safe, effective, affordable and good quality drugs and medical supplies for the people of Tonga.
- Ensure proper selection of drugs and medical supplies through the National Drugs and Medical Supplies Committee.
- Ensure best procurement practice is used.
- Ensure appropriate storage conditions are used and effective and timely distribution process is in place.
- Ensure that legislative framework is operational.
- Ensure that rational use and appropriate information are available.
- Ensure best pharmacy practice is adopted.

8.16.3. Financial Allocations

The section was allocated \$1,328,601.00 and was utilized for purchase of medicinal drugs and medical supplies.

The Central Pharmacy and Medical Store (CPMS) has five units. Administration, Manufacturing, Procurement/Drug Registration, Stores and Distribution, and Dispensing. There are 13 staff working at the GPMS. The Hospital pharmacies are responsible for inpatient and outpatient needs of each hospital and order and store their supplies accordingly. Vaiola Hospital Pharmacy has 11 staff, 3 for Ngu and 1 each for Niu'ui and Niu'eiki Hospital.

Administration

- The Principal Pharmacist supervises the Administration Unit which deals with human resource issues for the pharmacy before it is forwarded to the main office.
- This section is responsible for handling correspondences, filing, personnel and financial management.
- Maintaining of vote book and preparation of vouchers for payment of local and overseas expenditures.

Manufacturing

- Manufacturing Unit is organized and managed by Assistant Pharmacist Grade I Mr Tanginoa and is assisted by Pharmacist Losaline Titiuti, Store Assistant Mr Samuela Fifita and Assistant Pharmacist Grade II Mr Manase Tongia.

Table 76 Production Output for 2006

Year	Total Productivity	Total No. of batch	Total available costs
2004	766768	593	\$15,223.39
2005	858480	749	\$25,953.30
2006	788078	548	\$24,792.12

The total % of distribution to health locations were 67.8% Vaiola hospital, 8.5% Ngu hospital, 4.2% Niu'ui hospital, 2.7% Niu'eiki hospital, 2.3% Mu'a Health Centre, 1.9% Kolonga, 1.2% Kolovai, 1.3% Dental Division; 1.1 CPMS counter and 9.4 others.

Table 77 Summary of drug usage for commonly used products made locally

Items	2005	2006
Paracetamol Elixir 120mg/5ml	4113.5L	3690L
Pholcodine Linctus Adult	1619L	1635L
Pholcodine Linctus Infant	938L	970L
Promethazine syrup	842L	838L

Magnesium Trisilicate Mixture	1559.4L	1425L
Salicylic Acid Lotion	320.5L	432.5L
Benzoic Acid Oint	186.5kg	180.5kg
Calamine Lotion	36L	32L
Mepyramine Cream	12.5kg	14kg

During the year, there was a short supply of ingredients for producing paracetamol elixir which resulted in the purchased of ready made products to cover this period thus production for this item was lower in 2006 than 2005.

The Manufacturing unit tries their best to comply with provisions of the GMP relating to premises, equipment, personnel, manufacturing procedures, quality control, checking and recording procedures and special precautions, however, the quality of ingredients are not always obtained thus the Unit is investigating the option of buying ready made preparations if this issue continues.

Procurement and Registration

- The Procurement and Registration have been combined together to ensue that Products brought into the country by the CPMS are registered. This is to comply with with the legistration.
- The Procurement Officer Ms Melesisi Finefeuiaki is responsible for procuring drugs and medical supplies that are stored and distributed throughout the Kingdom under the guidance of the Principal Pharmacist. Drugs and Medical Supplies are procured from all over the world. A tender is put out each year for the majority of our requirements and the small items are procured direct from suppliers.
- Assistant Pharmacist Grade II Ms Catherine Tu'ilape updates the Temporary Registration List to ensure that items imported by the Central Pharmacy and Medical Store are included. In fufure, all medicinal products must be registered before they are allowed to be imported into the Kingdom. Pharmacist Ms Losaline Titiuti is assigned to work on implementation of the Therapeutic Goods Act 2001 and Pharmacy Act 2001.

Stores and Distribution

- Store and Distribution unit was supervised by Stock Control Officer Ms Polo Tausisi who later joined the reducdancy programme and left the service in July. Ms Catherine Tu'ilape, Assistant Pharmacist Grade II and Mesake Tufunga, Medical Storeman managed this unit when Tausisi left the service. The other officers working in this area are Mr Fe'ao Nonu, Assistant Storemen, Mr Lamisingi Niututpuivaha and Mr Matoto Loto'ahea, Store Assistants. They are responsible for receiving all incoming goods, check, record and store for distribution upon receipt of requisitions from each requisitioning stations throughout Tonga.
- This unit provides services for 4 hospitals, 14 health centres, 34 reproductive health clinics and few village health workers throughout Tonga.
- There were 786 requisitions or transactions carried out from the store unit. About 407 or 52% were for Vaiola Hospital alone, this included requisitions direct from wards, other sections, operating theatre, CSSD and the pharmacy. The remaining transactions were 19% for health centres throughout Tonga, 6% Ngu hospital, 5.6% Niu'ui hospital, 3.7% Niu'eiki hospital, 4.7% MCH clinics, 5.5% manufacturing unit and 3.5% for others. It is our aim that the number of transactions could be reduced through better planning and management.
- The unit through teamwork effort managed to table a timetable for each customer to ensure there is timely distribution and to be able to plan their work schedule on a weekly basis. This has worked well for the Health Centres in Tongatapu.
- The cost of goods issued out from CPMS was \$1,404,733.35 in 2006. The total value of goods purchased during the year is \$1,226,466.00.

- The floor area in the store was painted to make it easier for cleaning and shelves were rearranged to maximize use of space.
- Three container loads of IV fluids and other supplies were received during the year and many smaller consignments were further received.

Dispensing Counter

- Dispensing Counter is an extension of the outpatient dispensing at Vaiola for a limited ranges of items, which are available only from the CPMS. These are level 4 items in the old classification and are expensive and needs close supervision of its use. This service was relocated to Vaiola Hospital Pharmacy in late November 2006.
- Assistant Pharmacist Grade II Mrs 'Eleni Fe'aomoeata who worked in the counter was transferred to Vaiola in the last week of November 2006.
- The dispensing counter received 9% of the total items issued out of the CPMS. It was noted that due to better control of stock, the discrepancies between what was issued compared with what was recorded was reduced significantly.

Table 78 Central Pharmacy and Medical Store Dispensing Counter Record

Month	Pres	Items	Salbutamol Inhaler	Beclomethasone Inhaler	Insulin 70/30	Isophane Insulin	Soluble Insulin	Repeat
Jan	389	1465	228	119	79	112	7	189
Feb	477	1256	200	100	184	83	2	228
Mar	487	1434	197	104	221	79	3	264
Apr	385	1302	182	120	190	79	5	260
May	457	1419	233	149	206	61	3	279
June	428	1352	231	142	191	76	5	281
July	548	1546	148	91	157	64	5	237
Aug	609	1574	142	100	226	79	2	288
Sep	639	1563	189	132	237	69	6	422
Oct	633	1603	184	109	172	82	3	438
Nov	576	1567	184	117	215	70	3	478
Dec	695	1704	154	46	216	72	5	482
Total	6323	17785	2272	1329	2404	926	49	4005

- The dispensing counter receives 9% (11% in 2004) of the total cost of items issued out of the Central Pharmacy and Medical Store. Stock discrepancies continue to decrease due to better stock control.
- The Asthma Project improved the management of asthma and more patients are now on Beclomethasone (956 in 2004 vs. 1329 in 2005 – increased by 39%). This reduced the use of Salbutamol inhaler from 3192 to 2272 (drop by 29%). Ventolin inhaler use drop by 920 while Beclomethasone usage was increased by 373 inhalers.
- There was a decrease in the use of soluble insulin (from 62 to 49 vials) while the use of Mixtard slightly increases (from 2268 to 2404 vials).
- There was a slight increase in the total number of prescriptions (0.6%), total number of items (7%) and the total number of repeat prescription (15%) dispensed from the CPMS this year compared to last year.

Vaiola Hospital Pharmacy

- Mr Siutaka Siua is the officer in charge of Vaiola Hospital Pharmacy. Pharmacist Mrs Leva'itai 'Asaeli also assist with the running of the Pharmacy. There are also 2 Assistant Pharmacist Grade I Mr. Sakea Fusitu'a and Mr Sioeli Kalaleti and 7 Assistant Pharmacist Grade II.
- The main function of the Vaiola Hospital Pharmacy is to provide in-patient and outpatient pharmacy services.

- This include replenishing ward stock, providing drug information to patients and other health workers, counselling and working closely with patients to ensure correct usage of their medication. Ensuring that current medication are given to the patients and that they understand how to take their medication as per direction.
- The Pharmacy now has an Inpatient Pharmacy and an Outpatient Pharmacy. This separation is to ensure that both inpatient and outpatient have the same quality service. The pharmacy staff also participates in monthly visits to Mu'a and Kolovai Health Centres with clinicians to replenish patient's medication which are not available at the centres.
- The computerize inventory system mSupply has been running for over one year and is providing very good information in relation to stock situation as well as patient usage.

Table 79 Prescriptions record for Vaiola Pharmacy 2006

Month	Outpatient Pharmacy				Inpatient Ward items	OPD Night shift			Total Items	
	AM shift		PM Shift			No. of items	No. of pres.	No. of items		Total pres.
	No. of pres	No of items of	No. of pres	No. of items of						
Jan	7967	14785	2109	3639	1202	300	424	10376	18848	
Feb	7687	13975	2308	3967	1012	268	362	10263	18304	
Mar	7080	13375	3040	4900	967	379	543	10499	18818	
Apr	6693	12676	2987	4055	924	312	504	9992	17235	
May	6863	13304	3567	4968	890	456	628	10886	18900	
Jun	5900	11772	2440	3789	789	346	479	8686	16040	
Jul	7080	14567	2865	4329	1450	392	484	10337	19380	
Aug.	8749	17442	3254	3999	825	405	511	12408	21952	
Sept	6686	13416	4020	5211	876	563	615	11269	19242	
Oct	6705	13357	3167	3896	949	473	565	10345	17818	
Nov	6537	13503	3989	5796	621	489	572	11015	19871	
Dec	6498	13967	4156	6540	801	501	592	11155	21099	
Total	84445	166139	37902	55089	11306	4884	6279	127231	227507	

- From the table above, it shows that 66% of prescriptions are dispensed during the normal hours and 30% during pm shift i.e. 4-12pm midnight and only 4% from 12 midnight till 8.30am in the morning. There is 73% of total items being dispensed during normal working hours and 24% at pm shift and only 3% in the night shift. The cost of medicine received from the Central Pharmacy and Medical Store into Vaiola Hospital Pharmacy was 523,154.52 which is about 37% of the total goods issued out of CPMS.

Prince Ngu Hospital Pharmacy

- This year there were three Assistant Pharmacists Grade II, Mr Petelo Manu, Ma'u Tu'ineau and Polonitina Tai worked at the Prince Ngu Pharmacy until December when Petelo Manu was transferred to Tongatapu.
- The Pharmacy was only opened during normal hours until August when it opened from 6.00pm to 10.00pm each night from Monday to Sunday. This was running well with three officers but when only two are working then it gets too demanding as there would be overtime work during weekends.
- The officers are also involved in visits to health centres and clinics in Ta'anea, Leimatu'a, Pangaimotu and Longomapu and home visits.
- The Pharmacy and storeroom were renovated and painted this year through the EU project.
- The Pharmacy were able to use their computer donated by the EU installing mSupply inventory control and dispensing software in the last quarter of the year. This was a combined contribution of the Vava'u Hospital Board and the Ministry of Health.

Table 80 Prescriptions Record for Prince Ngu Hospital Pharmacy 2006

Month	No. of prescriptions	No of items	PM shift started in August	
Jan	1733	2918		
Feb	2023	3735		
Mar	1981	3754		
Apr	Renovation carried out in April 2006			
May	21306	2220		
Jun	1583	2960		
Jul	1851	3584		
Aug	2024	3646	No of prescriptions	No. of items
Sep	1913	3430	720	1291
Oct	1975	3599	648	1078
Nov	1519	2498	821	1353
Dec	2249	3853	422	655
			815	1428
Total	20157	36197	3426	5805

- The total number of prescriptions dispensed during 2006 except for April was 23,583 consisting of 42,002 items.
- The total cost for drugs received from CPMS for 2006 was \$115,510.82

Niu'ui Hospital Pharmacy

- A single Assistant Pharmacist Grade II is responsible for the operation of the Niu'ui Hospital Pharmacy.

Table 81 Prescriptions Record for Niu'ui Hospital Pharmacy 2006

Month	Pres	Items	After hours
Jan	1011	1391	351
Feb	1120	1452	261
Mar	897	1221	193
Apr	1056	1855	184
May	1222	1467	351
Jun	1771	1761	331
Jul	1205	1623	297
Aug	1314	1811	354
Sept	1349	1711	209
Oct	1233	1635	178
Nov	1353	1826	271
Dec	1005	1421	115
Total	14536	19184	3095

- The number of prescriptions has not changed much compared to 2005. There are now 81 patients who regularly obtain salbutamol inhalers and about 48 who are on insulin. There have been several relievers send to Niu'ui this year mainly to help the officer there and to relieve him. The record keeping in Niu'ui needs to be maintained in order to have better management of their stock.

Niu'eiki Hospital Pharmacy

- One Assistant Pharmacist Grade II Mr 'Eneasi Palanite manages Niu'eiki Pharmacy. He proceeded on leave in August and Mrs Salome Falemaka took over till the end of the year.

Details	Quarters				
	1	2	3	4	Total
Drugs and Medical Supplies	11.299.22	10661.41	11574.71	15272.90	46808.24

- The amount shown on each quarter represents both the drugs and medical supplies that Niu'eiki receives.

Table 82 Prescriptions Record for Niu'ui Hospital Pharmacy 2006

Month	No. Pres.	No. Items	No. repeat items	Ward Items	Outpatient No. Pres.	Outpatient No. Items
Jan	820	1321	411	197	185	320
Feb	717	1224	324	189	190	333
Mar	891	2367	451	201	200	354
Apr	866	1313	331	195	187	320
May	897	1375	443	207	212	407
Jun	643	1020	321	148	170	328
Jul	757	1200	405	188	197	334
Aug	1075	1877	241	218	219	352
Sep	804	1284	370	197	195	324
Oct	1013	1583	472	224	204	398
Nov	1037	1699	542	201	211	411
Dec	724	1227	452	224	192	380
Total	10244	16490	4763	2389	2342	4261

8.16.4. Milestones

In providing its services, the following were identified as milestones during the year,

- Donations of drugs and medical supplies were received from various donor organizations. Some were directed to the hospital and others were received at CPMS.
- The opening of the new part of the Hospital and the move of the inpatient pharmacy into the new location has given the pharmacy some room. This allowed us to move the dispensing for level 4 items that was normally conducted from the Central Pharmacy and Medical Store to be relocated back to Vaiola Pharmacy. It should be more convenient for the patients to collect all their medication from one place.
- The mSupply was installed at Ngu Hospital Pharmacy in November 2006. Mr Craig Drown from Sustainable Solution installed the software and provided training to the 3 offices at Ngu Hospital. The computers were provided by the EU and the Vava'u Hospital Board, AusAid assisted with the provision of label printer, rolls of labels, ribbons for printer as well as the registration cost for use of mSupply. It is anticipated Niu'ui and Niu'eiki Hospital Pharmacy would be next to use mSupply.
- **Overseas workshop**
 - Mr Siutaka Siua attended a meeting in Seoul, Korea for the 12th International Conference in Drug Regulatory Agency in April 2006.
 - Mr Siutaka Siua attended a meeting on Drug Regulatory Affairs in Geneva
 - Mrs Melenaite Mahe and Mr Siutaka Siua attended a workshop held in Suva, Fiji on Pharmaceutical Policies and Access to Good Quality Essential Medicines for Pacific Island Countries from 30th August to 1st September 2006.
 - Mrs Melenaite Mahe and Mrs Louhangale Sauaki attended a meeting in Manila on Financing of Essential Drugs in November 2006.
 - Mr Mesake Tufunga attended a two weeks long attachment to the Fiji Pharmaceutical Services Warehouse in Suva, Fiji in November.

8.17. Central Sterilising Supply Department

The overall management of the department was carried out by Mr Tony Kerr who was working in Tonga as a Sterile Supply Advisor under the AUSAID funded PacTAF scheme. Mr Kerr was assisted by a Senior Sterilising Assistant Mr Tangitau Fukofuka and 2 Sterilising Assistants Ms Melino Latu and Ms Petulisa Tu'itupou. On 18th December 2006, a third Sterilising Assistant Mrs Petsy Lomu transferred from Ngu Hospital to join the CSSD staff at Vaiola.

8.17.1. Functions

The section's function is,

- To provide an adequate supply of sterile surgical instruments and linen to the operating theatre and wards at Vaiola Hospital and also to health centres and clinics in Tongatapu.

The major part of the CSSD work load is to sterilise 20 different types of trays and instrument sets for specific procedures in the wards. An adequate supply of these trays and sets must be available at all times. Up to 200 of these trays and sets are processed each day for the wards and in addition the operating theatre's requirements for sterile trays, sets and line are met

8.17.2. Objectives

The section's objectives are,

- To maintain quality standard of service at all times.
- To ensure standard sterile procedures are followed at all times.
- To ensure adequate supply of instrument and linen is maintained in adequate quantity at all times.
- To maintain a harmonious working environment within the section and between staff and other sections and divisions.

8.17.3. Financial Allocations

The section was allocated TOP\$2,000.00 which was used to pay import duties and taxes on a shipment of donated linen and for stationary supplies.

8.17.4. Milestones

In providing its services, the following was identified as milestone during the year,

- The occupation of the new wing of the hospital. CSSD's new work space provides the staff with a well lit, clean and efficient environment. The new area came equipped with an ultra sonic cleaner and two Sukura sterilisers.

8.18. Non Clinical Support Services

The Medical Superintendent Support Services Dr 'Akanesi Makakaufaki is responsible for managing this Division. She was assisted by the Hospital Administrator, Mrs Kolianita Lavemai Alfred who later joined the voluntary redundancy programme, Senior Hospital Executive Officer, Mr Filipe Taufa, Computer Operator Grade III Mrs. Sesilia Lausi'i and the Storeman Clerk Ms. Siale Fonua.

The Division consists of nine sections: Maintenance, Domestic, Catering, Laundry, Seamstress, Grounds-Keeping, Security, Cental Sterile Supply Division and Switchboard Operation. Each Section has a supervisor responsible for managing the sections operations.

Sixteen of the Division's staff joined the voluntary redundancy program during the year. However, this did not significantly affect operations. The Organisational Strategy Programme coordinated by the AusAID had really turned this into a positive outcome by further strengthening staff performance and team work.

8.18.1. Functions

The Division's function is;

- The core function of the division is to provide all non clinical support service needs of all patients, staff and the public in an efficient and effective way within the budget allocated to us by the Ministry of health.

8.18.2. Objectives

The Division's objectives are:

- To ensure we employ adequate level of staff, who are well trained and highly motivated.
- To ensure quality equipment and facilities are provided to all sections in the division.
- To ensure all expenditures are controlled at the lowest level possible without compromising service quality.
- To ensure good communications with staff is maintained through regular meetings, supervision and the dissemination of relevant information.
- To ensure training needs of staff are identified and implemented appropriately.
- To ensure that the spirit of team work, partnership and collaborations are strengthened among staff within each section, between sections in the Division, with those in other Division and the community at large.
- To outsource, as much as possible, our support services when the time is right.

8.18.3. Financial Allocations

The division was allocated over \$900,000 divided to each section. The Medical Superintendent, Support Services monitors expenditures through managing procurement cooperatively with each supervisors to develop procedures and processes to address problem areas.

8.18.4. Milestones

In delivering its services, the following were identified as milestone during the year.

- The successful commissioning of the new B1 building, although it was a cooperative effort among all Ministry staff, but a major contribution from the Non- Clinical Support Staff, had a major impact.

8.19. Hospital Security

The three remaining Security staff joined the voluntary redundancy program during the year. Thus this service is totally outsourced and is now provided by the Security VIP Solutions who are on a one year contract.

8.19.1. Objectives

The section's objectives are:

- To upgrade the standard of the security service provided especially in the management of visitors movement and patient attendants.

- To ensure security and safety of patients, staff and properties of the Ministry within the Hospital compound is in place.
- To educate the public in all aspects and procedures of our security service so they would understand and peacefully comply and cooperate with our security staff. This is vital to the success, efficiency and effectiveness of this service.

8.19.2. Functions

The section's function is:

- To carry out quality service at all times in the Hospital and Ministry of Health compounds and facilities.

8.19.3. Financial Allocations

The section was allocated \$25,000 for the security contract. Staff capacity during the industrial action was doubled because of increased demand from the Ministry.

8.20. Laundry

Mrs. Funaki Vea responsible for managing this section and supported by 7 staff.

The core function of this section is to provide quality laundry for patient use and staff at the hospital and the peripheral health centres.

8.20.1. Objectives

The section's objectives are:

- To provide quality laundry and ironing service for the Ministry of Health.
- To further explore ways of obtaining detergents and chemical suitable to remove stains and manage contaminated linen in the best way possible.
- To procure a new boiler unit that provides the necessary temperature for quality laundry.
- To explore the possibility of a solar heater system in order to reduce fuel cost.
- To improve linen collection and sorting through procurement of laundry bags and trolleys.
- To produce laundered linen that are white and spotless at all times.
- To encourage enthusiasm, collaboration and cooperation from all staff in the Ministry to check, stock take and record accurately at all contact points, in the flow of linen, the amount of linen they handle.

There were 134,204 linen items washed during the year in 3974 loads of washing. There are three washing machines, one large and two smaller ones. There are two dryers and one presser for ironing purposes.

8.20.2. Milestones

In delivering its services, the following were identified as milestones during the year,

- Better quality service provided for the psychiatric patient through provision of extra washing chemicals, powder and deodorizer.
- A new tally system for linen count is set up for the laundry and the wards staff in an attempt to solve the loss of linen issues. A cooperative effort is required from all parties concerned.
- The Making a Difference Project of the Fo'i Paongo Group by Mrs. Melenaite Mahe, Ms. Moli Kiola and Ms. Saloni Fiu aiming at upgrading Laundry Service in Vaiola Hospital. They donated the following:
 - 11 wheel bins for collecting and transporting dirty linen from wards and other sections.
 - 11 large bins to be stationed at wards, surgical, medical & obstetrics for linen collection.

- Numerous cloth laundry bags.
- One month supply of plastics for lining the bins.

8.21. Seamstress

Seamstress Supervisor Mrs 'Atilila Vuna and two daily paid seamstress are responsible for this section until Mrs. Vuna joined the voluntary redundancy programme.

8.21.1. Objectives

The section's objectives are:

- To provide high quality seamstress service for Vaiola Hospital, Health Centres and clinics at all times.
- Outer island Hospital linen are also provided from the linen budget.
- To sew uniforms for Nurses and other staff in the Ministry of Health.

8.21.2. Functions

The core functions of this section's are:

- To provide high quality seamstress service for Vaiola Hospital, Health Centres and clinics at all times.
- Outer island Hospital linen are also provided from the linen budget.
- To sew uniforms for Nurses and other staff in the Ministry of Health.

8.21.3. Financial Allocations

The section was allocated \$500 which was used for purchase of supplies.

8.22. Grounds Keeping

The Medical Superintendent of the Support Services Dr. 'Akanesi Makakaufaki is also responsible for managing this section, supported by Mr 'One'one Siale a Grounds Keeper and one daily paid.

8.22.1. Objectives

The section's objectives are:

- To maintain high quality grounds keeping service at all times.
- To coordinate the collection and disposing of waste with other staff and departments.
- To maintain staff morale through supervision and motivation at all times.
- To ensure adequate and quality equipment and facilities are maintained.
- Need to look for some landscaping professional to develop the hospital compound to a state be fitting the new environment.

8.22.2. Functions

The core function of this section's are:

- To ensure that the hospital grounds are maintained at all times.
- To maintain and develop the flower gardens in the hospital compound to a high standard.
- To clean and pick up the rubbish in the compound and dispose it in a hygienic and sustainable manner.

8.22.3. Financial Allocations

The section was allocated \$10,000.00 to cover cost for equipment, uniforms, technical supplies and fuel.

8.23. Domestic

This section consists of 1 Domestic Supervisor, 8 Wards Maid, 6 Orderlies, 1 Public Convenient Attendant and 7 Psychiatric Assistant.

8.23.1. Objectives

The section's objectives are:

- To develop new cleaning procedures in order to upgrade quality service.
- To purchase all the necessary equipment and consumables required by staff to produce best service.
- To closely supervise, monitor and manage staff in order to improve performance and service quality.
- To closely monitor procurement in order to control cost.
- To identify training needs and implement accordingly.

8.23.2. Functions

The core function of this section's is:

- To provide quality cleaning service to all areas of the hospital. They may also accommodate other small tasks for patient's needs while performing their duties in the wards.

8.23.3. Financial Allocations

The section was allocated \$36,000.00 for its services. This covers for all cleaning chemicals and equipment for Vaiola Hospital and all peripheral health Centres in Tongatapu.

8.23.4. Milestones

In delivering its services, the following was identified as milestone during the year,

- The establishment of high standards of cleanliness by the contracted company.

8.24. Switchboard Operations

The Senior Telephone Operator, Mrs Luseane Polota is responsible for this service and is supported by five other staff. One operator is stationed at the new administration building permanently.

8.24.1. Objectives

The section's objectives are:

- To upgrade quality service so as to minimise complaints regarding staff performance.
- To explore ways of controlling telephone usage by staff to reduce cost.
- To develop training programmes in order to empower both operator and hospital staff alike in knowledge and understanding of the service.
- To further review the service and cost cutting strategies as future development in reducing expenditures.
- To enhance customer service skills of the telephone operators through training and education.

8.24.2. Functions

The core function of this section's is:

- To provide quality telephone communication service for the Ministry of Health at all times..

8.24.3. Financial Allocations

The section was allocated \$150,000 for its services and covers the cost of outgoing telephone calls. An average spending of nearly \$18,000 monthly on telephone calls.

8.24.4. Milestones

In delivering its services, the following were identified as milestones during the year,

- Installed of the computer billing system that identified information on types of calls, site of calls, duration and costs.
- A Ministry wide training focussing on telephone usage and cost conducted by the Manager of the OSCOM, Mr. Timote Tu'itavuki.

8.25. Catering Services

Administration Support Staff at the office of the Medical Superintendent, Support Services responsible for this section and is supported by 8 Assistants Cooks.

8.25.1. Objectives

The section's objectives are:

- To empower, train where needed and motivate staff in order to improve quality of performance.
- To upgrade facilities and equipment in order to improve service delivery.
- To continuously monitor expenditures and procurement in order to contain cost within budget allocation.
- To ensure quality meals are provided at all times and educate patients in a sustainable manner about diet and health during their hospitalisation.

8.25.2. Functions

The core function of this section's is:

- To provide high quality meals for patients. They also provide meals for live-in student nurses and staff who are required to work through meal times without a meal break.

8.25.3. Financial Allocations

The section was allocated \$204,000.00. This provides for patients' and staffs' diets and for the procurement of technical equipment.

8.25.4. Milestones

In delivering its services, the following was identified as milestone during the year,

- Containing cost within the budget allocated to this section is our greatest achievement. Overspending was a chronic problem faced by the section for many years.

8.26. Maintenance

Senior Hospital Engineer, Mr. Tu'ifua Taumoefolau is responsible for managing this section until his secondment and was takeover by Mr. Feleti Eke, Mechanical Supervisor and is supported by 12 staff.

8.26.1. Objectives

The section's objectives are:

- To stock most vital spares.
- Enforce planned maintenance for all facilities and equipment.
- To improve provision of medical gases
- Improve monitoring of hospital equipments and facilities.
- To develop best-practice equipment management and maintenance processes.
- Introduce regular equipment maintenance program for the island hospitals.
- To develop a facility maintenance program for Vaiola Hospital.
- To appropriate manage the use of utilities.
- To appropriately manage and improve equipment purchases.
- Establish cost of repairs for biomedical equipment record.
- To develop best organizational approach for managing equipment and facilities.
- To introduce the best organizational approach for managing facilities and equipment.
- To train staff.
- To develop a maintenance program for all health facilities.
- To improve the stem system.
- To improve the quality of the water service line.
- To appropriately manage and improve equipment purchases.
- To manage the maintenance budget.

8.26.2. Functions

The section's functions are:

- Sourcing and procurement of equipment and spare parts from overseas.
- Commission and decommission of equipment.
- Provide engineering maintenance services for equipment and facilities.
- Perform minor alterations to facilities.
- Prepare proposals for improvement of equipment and facilities.

8.26.3. Financial Allocation.

The section was allocated \$23,850.00 and it was utilize for purchasing fuel, uniforms, technical equipment and maintenance of office building and specialized equipment.

Table 83 Medical Gas: Oxygen produced at the Vaiola Oxygen Concentrating Plant

Year	Number of large oxygen cylinders produced	Number of large oxygen cylinders purchased	Total Number of large oxygen cylinders supplied.
2001	1700	42	1742
2002	1701	18	1719
2003	2226	30	2256
2004	2530	66	2596
2005	2574	10	2584
2006	2148	80	2228

Large Medical air = 90 cylinders
 Large Nitrous Oxide = 10 cylinders

Table 84 Steam Boiler Consumption

Year	Boiler fuel (Diesel) Consumption, litre
2001	98393
2002	69023
2003	60378
2004	58325
2005	59100
2006	52680

Less diesel were used this year as compared to last year. The main reason for this is better maintenance of the steam line and the movements of the Laboratory services to the new Hospital Building.

8.26.4. Milestones

In providing its services the following were identified as milestones during the year.

- Mr Sioeli Manu traveled to Vava'u in September to carryout repair and preventive work on dental equipment.
- Mr Mikimeta Muna traveled to Vava'u to install new medical equipment under EU grant for Ngu Hospital. Inservice training was also delivered to staff.
- The Maintenance helped in installing of additional fittings at the new building. This enable the smooth transfer and occupying of this new building.
- Mr Sioeli Manu went to Australia for training on repairing and maintenance of Dental equipment. This lead to a close working relationship with Rotary Team at Melbourne.
- Mr 'Ofeina Soakai attended a training workshop in Fiji on repairing of vaccine refrigerators.

9. NURSING SERVICES

9.1. Management

Chief Nursing Officer Mrs Lata Malu is responsible for the efficient and effective management of the Nursing Division.

The division's goal is to contribute to the health of the nation through the provision of the best possible nursing care services.

The division is made up of three sections,

- Hospital Nursing
- The Queen Salote School of Nursing
- Reproductive Health

9.2. Vaiola Hospital Nursing

Matron, Mrs. Valoa Fifita is responsible for the management and administration of this section and is supported by 1 Senior Nursing Sister, 1 Assistant Nursing Sister, 3 Senior Nurse Midwife, 10 Nursing Sister, 8 Nurse Midwife, 9 Senior Staff Nurse and 108 Staff Nurse.

9.2.1. Vaiola Hospital Nursing

9.2.1.1. Objectives

The section's objectives are:

- Improve and upgrade nursing staff's management.
- Upgrade standard of hospital nursing services.
- Review and provide policies and regulation for the improvement of staff performance.
- Upgrade nursing staffs skills and knowledge.

9.2.1.2. Functions

The section's functions are:

- To provide best quality nursing services to all patients.
- To implement therapeutic measures ordered by Medical Officers with intelligent application to patients.
- To co-operate with all hospital staff and services to facilitate and improve patient management.
- To support in-service and post basic training of nurses.

9.2.2. Financial Allocation

The section was allocated \$44,000.00 and was utilized for purchase of uniforms for nurses, linen requirements for all hospitals and health centres.

9.2.3. Milestones

In providing its services, the following were identified as milestones during the year,

- Mr Lionel Genty conducted a management training for senior nursing staff.
- Eight (8) Staff Nurses completed the ICU training.
- Trainings implemented:
 - Sr Langi Tupou and Staff Nurse Lisia Likiliki attended one month attachment at St. John of God Hospital in Ballarat, Australia.
 - Sr Hevaha Paseka and Sr Mele Vainikolo attended a 1 week workshop in Fiji on 11th to 17th February to follow up and review management course attended by Sr Paseka in Japan in 2005.
 - Sr 'Ofa Takulua attended a 1 month attachment in Middlemore Hospital, New Zealand on infection control.
 - Staff Nurse 'Emeline Pupunu attended a 3 months attachment on Psychiatry Nursing in New Zealand.
- Vaiola Hospital Board of Visitors continues their assistance in providing funds for the hospital needs, and visited and distributed gifts for patients at Christmas.

9.3. Queen Salote School of Nursing (QSSN)

Mrs 'Ana Kavaefiafi, Principal, Queen Salote School of Nursing is responsible for the management and administration of the School and is supported by 1 Senior Tutor Sister, 2 Tutor Sister Graduate, 1 Clinical Nurse Tutor Graduate, 1 Clinical Nurse Tutor, 1 Computer Operator Grade III and 1 Librarian.

9.3.1. Objectives

The schools objectives are:

- To provide a continuous process of curriculum development/review based on evidence-based practice and assessment of its effectiveness in the preparation of students for nursing practice.
- To develop the full potential of the nursing student to enable him/her to apply the knowledge and skills in various health care setting.
- To direct educational programme to utilize physical, medical and social sciences and humanities as foundation for learning the art and science of nursing.
- To develop appropriate instructional strategies to cope with individual differences of the learner.
- To render student-based training to nursing students.
- To provide transport for student's field experience.
- To effectively manage all post-basic nursing training.
- To provide a forum where others can contribute to the preparation of future nurses.
- To utilize other health professionals in the training of nursing students.
- To upgrade all staff of QSSN to degree level for implementation of diploma level training for nurses.
- To upgrade and maintain the physical facilities at QSSN to sufficiently accommodate staff offices, a science laboratory, a nursing science laboratory, a library, and a staff common room with rest room facilities.
- To facilitate the upgrading of instruments and equipments in hospital wards as support service for student learning.

9.3.2. Functions

The school functions are:

- Develop, implement and evaluate a curriculum which is academically sound, scientifically based, culturally acceptable, socially appropriate and internationally recognized.
- Recruit and prepare suitable nursing candidates (Basic and Post-Basic Nursing), for quality and effectively health care delivery to the people of the Kingdom of Tonga.
- Work collaboratively within the Nursing Division and other divisions of the Ministry to maintain the highest standards of nursing practice for nurses in Tonga.
- Provide an educational programme that will continuously upgrade the knowledge and skills of nurses both locally and in isolated areas.
- Initiate a programme that prepares the staff of QSSN to function at an optimum level of competency.

9.3.3. Financial Allocations

The School was allocated \$14,234.00 for implementation of its various activities during the year.

9.3.4. Meetings and Workshops

The School conducted, facilitated or attended the following meetings and workshops.

The School conducted, facilitated or attended the following meetings and workshops.

- Sr 'Ana Kavaefiafi, National NCD Review of Strategic Plan, 1-3 March 23006.
- Sr Kathy Ramsay, Public Service International Meeting, Sydney, Australia, 26-27 March 2006.
- Sr 'Ana Kavaefiafi, Implementing Global Strategy on Diet and Physical Activity and Health in the Pacific, Suva, Fiji, 3-6 April 2006.
- Sr 'Ana Kavaefiafi, Pre-conference Workshop on HIV/AIDS, Apia, Samoa, 30 August-1 September 2006.
- Sr 'Ana Kavaefiafi, South Pacific Nurses Forum, Apia, Samoa, 4-7 September 2006.
- Senior Staff Nurse 'Ana Fevaleaki, Management Workshop funded by AUSAID, Nuku'alofa, Tonga.

- Inservices Education for Vava'u Nurses, 2-5 October 2006.
- Sr 'Amelia Tu'ipulotu, 1 month attachment to Auckland University of Technology, 27 February to 26 March 2006.

9.3.5. Milestones

In providing its services during the year, the following have been identified as milestones,

- Twenty (20) Student Nurses graduated with a Diploma in Nursing
- Ten (10) Staff Nurses graduated with Post-Graduate Certificate in Critical Care Nursing.

9.4. Reproductive Health

Supervising Public Health Sister, Mrs Sela Paasi manages this section and is supported by 2 Nursing Sister Graduate, 1 Nursing Sister, 2 Nurse Practitioner, 7 Senior Nurse Midwife, 2 Nurse Midwife, 14 Senior Public Health Nurses and 11 Public Health Nurses.

9.4.1. Objectives

The section's objectives are:

- To develop skilled and committed staff to meet the evolving roles of public health nurses.
- To improve and upgrade staff performance.
- To improve communication, teamwork, and cooperation, and reduce conflicts and misunderstanding among health workers.
- To provide effective and quality reproductive health services to women of child bearing age through:
 - Easy access to reproductive health, adolescent and sexual health.
 - Maintaining high coverage of ante natal and post natal care.
 - Helping couples and individuals to plan their families.
- To promote safe motherhood with continuing low mortality rates and high coverage levels of all services
- To ensure and monitor good health and normal development among infants and under five years old children through good immunization coverage, good nutrition and good care management of childhood illnesses in the community.
- To promote and improve the rate of exclusive breast feeding babies at 4 months and six months.
- To maintain and equip the Health Clinics and Health Centres with necessary services and adequate equipment.
- To upgrade public health nurses in public speaking and computer literacy skills.
- Conduct regular meetings, liaise with other community programmes and conduct regular island visits.
- Conduct awareness programmes through radio and TV which are funded by UNFPA.
- To assist in developing an occupational health standard for all public health staff.

9.4.2. Functions

The section's functions are:

- To provide effective and quality services to mothers, infants, children, adolescents and others through reproductive health strategic approaches throughout the Kingdom of Tonga. This includes:
 - Training preparation of nurses with updated knowledge and skills, to deal with her daily activities.
 - Set up goals and objectives through collaboration and discussion with all nurses of the section.
 - The provision of quality ante natal care and post natal care to women of child bearing age throughout the Kingdom.
 - Providing services for the adolescent population.

- Helping couples to plan their family.
- Making family planning methods available to clients based on their choice.
- Provision of immunization services to ante natal mothers, school children, under five years old children and infants as directed by the National Immunization Policy.
- Provision of awareness programmes through radio and TV.
- Responsible for the school health and school clinics.
- Responsible for the regular assessment of the under five years old children and infants
- Promote and encourage mothers to exclusively breast feeding their babies for at least four months to six months.
- Responsible for the community nursing services to sick people as well as healthy people.
- Collaboration, coordination, teamwork and participation with other health care workers, other health sections, NGO and some government ministries and sectors in a wide range of community development initiatives and activities.

9.4.3. Financial Allocations

The section was allocated \$51,650 for implementation of its services and also received financial support from UNFPA, JICA and WHO.

9.4.4. Milestones

In providing its services, the following were identified as milestones during the year,

In providing its services, the following were identified as milestones during the year,

- Tonga is declared to be measles free by the year 2007.
- The Tonga Evidence Based Guidelines in Family Planning for Health Workers came into practices as from March 2006.
- Reproductive Health Section conducted a five day Management, Review and Planning Workshop from 27 February to 3 March 2006. The Workshop was officially opened by Mrs Melenaite Tangi and the remarks from UNFPA was delivered by Dr Annette Robertson. A milestone of this workshop is each Public Health Nurse prepared her own result based management work plan for 2006.
- Reproductive Health Section promotes the good relationship with existing partners UNFPA, UNICEF, JICA and WHO. During the year, a new partnership with one Rotary Club from Japan was established.
- Sr Sela Paasi and Dr Toakase Fakakovi attended the Senior Health Officials Network Meeting in Madang, Papua New Guinea as from 13 – 17 March 2006. The workshop was funded by AUSAID.
- Sr Sela Paasi attended the WHO/UNFPA, Asia Pacific Regional Workshop on Reproductive Health Implementation, Review and Planning in Bangkok from 24-28 April 2006.
- Sr Sela Paasi attended the PIPS Regional Meeting in Nadi, Fiji from 8-12 May 2006.
- Dr Makameone Taumoepeau, Ms Poaki Totau, Sr Afu Tei and Sr Sela Paasi attended the 3 Reproductive Health Technial Workshops at different times in Suva, Fiji as from 29 May – 9 June 2006.
- Sr Afu Tei attended the Reproductive Health Strategies workshop, Suva, Fiji as from 5-9 June 2006.
- Sr Afu Tei attended the training on Social Marketing on Physical Activity and Healthy Eating as from 9-11 August 2006.
- All Public Health Nurses attended J-PIPS Workshop in Nuku'alofa, Tonga as from 23-25 August, 2006.
- Sr Sela Paasi and Ms Iemaima Havea attended the Advocacy Workshop in Nadi, Fiji as from 24 – 31 October 2006.
- Sr Afu Tei attended the J-PIPS Immunization Workshop in Suva, 21 – 24 November, 2006.
- Sr Sela Paasi attended the Pre-Workshop on AIDS and the South Pacific Nurses Forum in Apia, Samoa as from August – September 2006.
- Electronic Registry of Immunization Services and Family Planning was introduced.
- Revised Immunization cards for infants and pre-school children initiated in January 2006.

- Thirty (30) mobile phones were made available to Public Health Nurses in Tongatapu, Vava'u, Ha'apai and 'Eua in February 2006.
- Dr Salesi Katoanga, WHO Consultant conducted a Maternal Review/Audit workshop and Resource Meeting in December 2006.
- Good partnership and effective collaboration between the Ministry of Health, the community and Tonga Family Health Association were strengthened in working towards production of outputs in both RH and ARH programmes.
- Public Health Nurses were able to attend various trainings, workshops, seminars, meetings throughout the year.
- Sr Sela Paasi attended the workshop on the Standard Drug List for Tonga as from 13-17 November 2006.
- Public Health Nurses from Tongatapu, Vava'u, Ha'apai and 'Eua attended the Workshop on POPS in Human Breast Milk on 31 November 2006.
- Supervisory visits to the Reproductive clinics and health centre at Tongatapu by supervisors were conducted throughout the year at regular intervals.
- Reproductive Health services and clinics at Ha'apai, Vava'u and 'Eua were visited twice and one supervisory visit to Niuatoputapu in 2006.

10. DENTAL SERVICES

Chief Dental Officer, Dr. Viliami Telefoni Latu was responsible for managing and coordinating the division until his retirement in July. Dr. Sililo Tomiki is now responsible for managing dental division to ensure services delivered are efficient and effective, maintain high quality standards to ensure the ongoing improvement in the dental services.

10.1. Objectives

The division's objectives are,

- To reduce the incidence of dental caries in school children (pre-school, primary and secondary school).
- To implement various school preventive program.
- To reduce other oral/dental health problems.
- To ensure that the all people of Tonga access and achieve optimum oral/dental service with the available resources.
- To maintain quality and standard services at all time.
- To create and maintain a working environment that is safe and productive to maintain the interest and motivation of staff.

10.2. Functions

The division's functions are,

- To provide high quality service that is professionally sound, cost effective and complies with ethic.
- To deliver efficient and effective services: curative, preventive to schools and the community and rehabilitative (denture) works for those in needs.
- To ensure ongoing training of new recruits and continuous education of staff.

The dental establishment consists of 46 posts of which 38 were filled with 6 vacancies, 1 retired and 1 redundancy. This consist of 1 Acting Chief Dental Officer, 1 Principal Dental Officer, 4 Senior Dental Officer, 5 Dental Officer, 4 Senior Dental Therapist, 13 Dental Therapist, 1 Dental Technologist, 6 Dental Chair-side Assistant, 1 Dental Sterile Supply Assistant, 1 Dental Computer Assistant, and 1 Dental Receptionist.

Oral/Dental Health services are made available to the public through dental outpatient and inpatient services at Vaiola Hospital and health centres for the people of Tongatapu, Prince Wellington Ngu Hospital and Health centres for the people of Vava'u, Niu'ui Hospital and Health centre for Ha'apai people, Niu'eiki Hospital for 'Eua, as well as Likamonu Health Centre for Niuatoputapu and Tu'akifalelei Health Centre for Niufo'ou.

10.3. Financial Allocations

The Division was allocated \$110,000.00 and was utilized to facilitate efficient and effective deliverance of curative services, school dental services and public health (excluding schools).

10.4. Milestones

In delivering its services, the following were identified as milestones during the year,

Tonatapu: Vaiola Hospital

- Extended services to various Health Centres (mobile clinic).
- Installation of air conditions and partitions at treatment rooms – Vaiola Hospital.
- Enforce the preventative maintenance of dental equipments.
- Received a donated fiber optic intubating endoscope (AUD \$14,000) to be used in the operating theatre for patients with difficult mouth opening.
- Continuation and extension of the pits and fissures sealant program for the 6th and 7th years old school children.
- Commencement of formal in-country training of six dental therapist trainees.
- Continue once biweekly radio and twice yearly talkback program.

'Eua: Niu'eiki Hospital

- Be able to maintain the standard of the treatment room upgraded and equipped by the Ballarat Rotarians.

Ha'apai: Niu'ui Hospital

- Involvement of 5 Government Primary School, 1 Side School and 2 Kindergartens with the Fluoride Rinsing Program.
- Initiate the pits and fissure sealants program to 6th and 7th years old children at school.
- Two Japanese Team visited: a) conduct a one day workshop with the secondary school students of Lifuka, and b) distribute toothbrushes to the primary school of Lifuka, Kavai Ha'ano, 'Uiha and Felemea (Mata'aho).
- Conduct monthly radio program at the local station 88.6FM.
- Enforce the maintenance of dental equipments.

Vava'u: Prince Ngu Hospital

- Achievement provided by the Ballarat West Rotary Club: a) two new fully equipped dental chair for the children's dental clinic. b) renovate and fully equipment their denture prosthetic lab. c) renovate and provision of equipments and supplies of their existing two dental chairs and the dental stores.
- Dental prosthetic works (denture construction etc) can now be carried out in Vava'u.
- Enforce the maintenance of dental equipments.

Likamonu and Tu'akifalelei Health Centre

- Able to maintain one dental officer for each island to cover curative and school preventive works.

11. ADMINISTRATION

11.1. Management

Principal Health Administrator, Mr Tu'akoi 'Ahio is responsible for managing the division.

The Division's general vision is doing the right thing right.

The Division's core mission is to respond effectively to all the support services required by the Ministry in term of:

- Administrative and Corporate Services
- Personnel and Human Resource Management
- Financial Management
- Transport Services

11.2. Administrative and Corporate Services

The Principal Health Administrator manages this section and is supported by 1 Clerk Class II.

11.2.1. Objectives

The section's objectives are:

- To improve staff morale through improved communication and recognition of achievements.
- To improve customer service.
- To improve the basic management skills of the section heads within the division.
- To establish a standard timeframe for processing administrative procedures.
- To update the Administrative protocols as a reference for the Divisional and Sectional Managers.
- To develop an up to date asset management procedure and register.

11.2.2. Functions

The section's functions are:

- Provide secretariat functions to the office of the Director of Health.
- Monitor and maintain communication and communication channels.
- Develop and monitor procedure to improve customer service.
- Document and update administrative procedures and processes.
- Manage and monitor asset management procedures.
- Enforce, implement and maintain standing administrative procedures.

11.2.3. Financial Allocations

This section was allocated \$1,501,969 and was utilized for office operation.

11.2.4. Milestones

In providing its services, the following were identified as milestones during the year

- Weekly meetings implemented.
- Customer service training developed and implemented.
- Administrative Procedure streamlined and re-documented.

- Asset Register updated.
- Training developed and implemented for wide awareness of reporting mechanism and to improve staff morale.

11.3. Human Resource Management

The Health Administrator, Mrs. 'Olivia Tu'ihalamaka is responsible for managing this section and is supported by 3 staff.

11.3.1. Objectives

The section's objectives are,

- Section has the knowledge, skills and motivation needed to provide a high quality human resource management.
- To ensure that staffing levels meet work needs.
- Maintain an accurate and up to date HRMIS.
- Managers are provided with accurate, relevant and timely human resource information.
- Develop and introduce an induction programme suitable for all new staff.
- To ensure that staff are recruited/selected that meets the criteria for the position and fit the culture of the Ministry.
- To ensure that all established posts are filled.

11.3.2. Functions

The section's functions are,

- Management and maintaining of all human resource database.
- Monitor and maintain human resource Filing System.
- Provide advise to relevant authorities and maintain correspondences on all human resource matters.
- Document and update all human resource Policies and Procedures.
- Enforce all human resource Rules and Regulations.
- Provide Training and Development sessions on human resource matters to all Ministry of Health personnel.

11.3.3. Financial Allocations

This section was allocated \$58,476.00 and was utilized for office operation.

11.3.4. Milestones

In delivering its services, the following were identified as milestones during the year,

- Revised HRMIS database.
- Revised human resource internal sectional procedures.
- Implemented new HRMIS database and human resource internal sectional procedures.
- Monthly, quarterly reporting are based on HRMIS updated and information.
- Key training needs analysed and proposed to WHO for implementation.
- Developed induction programme for new recruits for immediate implementation.
- Analyse staffing level for revision at higher level.

11.4. Financial Management

Senior Accountant, Ms. Sesimani Taulanga is responsible for managing this section and supported by 18 staff. The section was allocated \$150,000.00 for office operations.

11.4.1. Objectives

The Section's objectives are:

- To provide a timely payment of staff salary, wages, allowance and Income tax.
- To improve revenue collection within the Ministry of Health and achieve annual revenue target.
- To provide updated and regular financial reports.
- To provide budget to all cost centres and monitor expenditure against the Budget.
- To produce a realistic Draft Estimates annually.
- To broaden staff skills in Sun System.

11.4.2. Functions

The Section's functions are:

- Salary and wages preparation.
- Salary (Allowances) and wages payment.
- Revenue collection.
- Financial management.
- Preparation of draft estimates and budgeting.

11.4.3. Milestones

In delivering its services, the following were identified as milestone during the year,

- Monthly report distributed to Programme Managers on a monthly basis.

11.5. Transport Services

Transport Supervisor, Mr. Tu'itavake Lavaki is responsible for managing this section and supported by 22 drivers.

11.5.1. Objectives

The section's objective is:

- To improve the working schedule for the rostered drivers.
- To have better control of the vehicles' movement.
- To continue developing and implementing training model for Ambulance drivers.
- To improve the system of maintaining and replacing of old vehicles.

11.5.2. Functions

The section's functions are:

- Pick up and drop staff at rostered after-hours and night duty (especially nurses and medical officers)
- Driving the Ministry's vehicles.
- Send and deliver message as required.
- Maintain and service vehicles.

11.5.3. Financial Allocations

The section was allocated \$161,540 and was utilized for purchase of fuel and maintenance of vehicles.

- In Tongatapu there are 32 vehicles and 23 of these were funded and provided by external donors while 9 were funded by Government.
- In Vava'u, there are 8 vehicles with 6 funded by external donors and 2 by Government.
- In Ha'apai, there are 3 vehicles and all were funded by external donors.
- In 'Eua, there are 2 vehicles and external donor and Government funded each.
- In Niuatoputapu there are 2 vehicles and each funded by external donor and Government.
- In Niuafo'ou, there is one vehicle and was funded by an external donor.

11.5.4. Milestones

In delivering its services, the following were identified as milestones during the year,

- 6 new vehicles obtained.
- Identify on-call requirements.
- Standby ambulance received.
- Daily operation plan for each vehicle

12. HEALTH PLANNING AND INFORMATION

12.1. Management

Principal Health Planning Officer Mr. Taniela Sunia Soakai was responsible for managing the Division which consist s of Health Planning, Health Information, Information Technology, Medical Records, Project Planning and Research Sections.

The Division's objective is to provide efficient and effective, health planning, health information, project planning, medical records and research services to its customers within and from outside the Ministry locally, regionally and internationally.

12.2. Health Planning

This section is headed by a Health Planning Officer and supported by a Computer Operator Grade II.

The sections mission statement is; to provide efficient, timely and effective health planning services to the Ministry and partner organizations.

12.2.1. Objectives

Table 85 The sections key result areas and objectives are.

Key Result Area	Objective
1. Staffing and staff development	<ul style="list-style-type: none">▪ To ensure the required number of staff with the appropriate knowledge and skills are employed to provide efficient and effective health planning services.▪ To provide opportunities for staff training▪ To secure funding for staff training▪ To prioritize training needs
2. Planning approach for health	<ul style="list-style-type: none">▪ To document the planning process

services In Tonga	<ul style="list-style-type: none"> ▪ To disseminate the planning approach and educate staff
3. Master Plan for Vaiola Hospital	<ul style="list-style-type: none"> ▪ To prepare a Master Plan and Stage 1, facilities plan for Vaiola ▪ To undertake detailed Stage II facilities planning
4. Policy development capabilities	<ul style="list-style-type: none"> ▪ To establish research capability ▪ To provide support for development of relevant health policies
5. Concepts of evaluation and health outcomes	<ul style="list-style-type: none"> ▪ To evaluate planning processes ▪ Develop the concept of key performance indicators
6. National Health Development Committee	<ul style="list-style-type: none"> ▪ Formulation of recommendations on matters pertaining to health policy, including legislation and regulations as required. ▪ Formulate training and human resources plans. ▪ Determine the programmes and projects required to fulfil the health development plan, and recommending development and recurrent estimates to support the programmes ▪ Fostering intra-service and inter-organizational cooperation and coordination of the various health programmes in operation. ▪ Monitor the implementation of programmes and updating plans and programmes.

12.2.2. Functions

The sections functions are:

- In consultation with programme managers responsible for the development, implementation and monitoring of the Ministry's Corporate planning process.
- Development, implementation and monitoring of the bi-annual WHO Programme Budget.
- Liaise with donor agencies in regard to development projects and activities.
- Provide secretariat functions for the National Health Development Committee.
- Prepare, implement and monitor the Ministry's Development Estimates.
- Oversee activities related to human resource training and development.

12.2.3. Financial Allocations

The Section was allocated \$12,000 and was utilized to purchase office supplies, printing and stationery, and processing of the Ministry's staff overseas training needs.

12.2.4. Milestones

In providing its services, the following were identified as milestones during the year,

- Health Planning Officer, Mrs Mafi Hufanga pursued 8 weeks short term attachment on Health Planning funded by the World Health Organization at Hawkes Bay District Health Board, Hastings, New Zealand as from 11th March to 6th May 2006.
- Computer Operator Grade II, Mrs. Poaki Totau attended two days workshop on Programme Management in Suva, Fiji as from 29th – 30th May 2006.
- There was a major improvement in terms of formatting of the Hon. Minister's Annual Report for 2005 in comparison with previous reports.

12.3. Health Information

Health Statistics Officer, Mr Sione Hufanga is responsible for managing this section and is supported by 3 staff.

12.3.1. Objectives

Table 86 The section's objectives are.

Key Result Areas	Objectives
Adequate number of skilled and committed staff	<ul style="list-style-type: none"> ▪ To train staff. ▪ To provide staff with further training in health information management and data analysis. ▪ To ensure staff understand their job description.
Efficient and effective health information systems	<ul style="list-style-type: none"> ▪ To improve data analysis capability. ▪ To improve data quality to international standard. ▪ To improve the reporting of clinical information. ▪ To benchmark health status information with other Pacific Islands ▪ To improve report production.
Adequate facilities, equipment and supplies	<ul style="list-style-type: none"> ▪ Improve work space. ▪ To ensure quality of computers and other office supplies are above average expectation.

12.3.2. Functions

The section functions are:

- Computerize district hospital discharge data.
- Computerize Health Centre weekly and monthly reports.
- Computerize Hospital weekly/monthly reports.
- Disseminate health information locally, regionally and internationally.
- Prepare statistical tables for the Annual Report of the Hon. Minister of Health.
- Computerize Births and Deaths data.
- Liaise with Justice and Statistics Department in matters pertaining to births and deaths registration.

12.3.3. Financial Allocations

The section was allocated \$4,000 and was utilized for the purchase of office supplies and maintenance of equipment.

12.3.4. Milestones

In providing its services, the following were identified as milestones during the year,

- Computer Operator Grade 1, Ms. T. Nauna Paongo commenced her study for a Master Degree in Health Informatics in July 2006.
- Health Statistics Officer, Mr. Sione V. Hufanga also commenced his study for a Master degree in Biostatistics in the first semester of 2006.
- Job description of this section was reviewed for the Job evaluation exercises that were held in year 2004.
- Health Information Section was very supportive in terms of assisting Ministry's sections that require Health Information support. Databases for Dental and Outpatient Department under the supervision of the Health Information Specialist. Databases for the Health Care Waste Management Section and Communicable Disease Section were developed. These databases contain reporting features that will analyze the data at any point of time. Assessment of the diabetic database designed by Prince of Wales Hospital was conducted.
- Health Information in conjunction with the Health Information Specialist conducted in country training in Medical Terminology and Coding Training for staff of Medical Records (including all Medical Records Staff of Outer Island Hospital) and Health Information. The full duration of this training was one month and it covered basics computer training.

- Health Information Section under the Health Sector Support Project launched internet connection for all the Medical Records Offices in Outer Island Hospital. The intention of this investment is to improve communication between hospitals in terms of data collection. This strategy will centralize majority of Ministry's information system.
- WHO allocate funds for review of Tonga's Health 2000. The Health Statistics Officer in conjunction with the Senior Medical Officer, Research prepared some data and undertook preliminary analysis of available data as part of the preparation for the Report. This work was not completed in 2006 but it is anticipated to be completed in early 2007.

12.4. Information Technology

Computer Programmer, Mr. Tu'amelie Paea manages the section and assisted by 2 daily paid Computer Operator Grade III.

12.4.1. Objectives

The section's objectives are:

- To align IT services with the current and future needs of the Ministry.
- To improve the quality of the IT services delivered.
- To ensure adequate staffing levels.
- To ensure computer standards are maintained.
- To optimize support and development costs.
- To improve data quality.
- To improve quality of LAN, WAN and internet.

12.4.2. Functions

The section's function is:

- Responsible for supporting of computers within the Ministry and developing policies and procedure for procurement of new IT equipment.

12.4.3. Financial Allocations

The section was allocated \$8,000 and was utilized for the purchase of office supplies and maintenance of equipment.

Table 87 Number of computers within the Ministry of Health, 2006.

Division/Section	No. of computers
Administration	22
Medical	21
Public Health	14
Dental	1
Nursing	3
Health Planning & Information	18
Computer Lap	12
Pharmacy	12
Health Centres	1
Vava'u District	6
Ha'apai District	2

'Eua District	2
Niua District	1
PMU	5
TOTAL	120

Table 88 Number of computers in the Ministry of Health, 2006.

Network	Number of computers
Health	86
Medical Store	7
Queen Salote School of Nursing	1
Computer Lab	12
Vava'u (Ngu Hospital)	4
Standalone computers	
Vaiola Hospital	1
QSSN	2
Niua District	1
Vava'u	2
Ha'apai	2
'Eua	2
TOTAL	120

Table 89 Computers installed during year, 2006.

Section/Division	No. of computers
Pharmacy/Medical	4
Health Promotion/Public Health	3
Information Technology/Health Planning and Information	3
Administration	4
Health Promotion	1 Laptop
Communicable Disease/Public Health	1 Laptop
TOTAL	14 Desktops/2 Laptops

Table 90 Counts of calls per month by type of faults.

Type of faults	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Grand Total
Hardware	8	6	1	1	4	2	1	2	1	1	1	1	39
Network	9	7	8	0	4	4	1	0	3	0	1	1	38
Software	12	2	35	3	8	3	1	2	1	0	3	2	72
Grand Total	29	15	54	4	16	9	3	4	5	1	5	4	149

90% of calls resolved by MOH IT within 2 days.

Table 91 All calls recorded on IT Help Desk system.

Duration of Computer problems fixed	Responsible Company				
No. of days	Into-Tech	MOF IT	MOH IT	Office Equipment	Grand Total
0 – 1 day	20	5	144	1	170
1-2 days	6	3	2	2	13
3 or more			3		3
Grand Total	26	8	149	3	186
Percentage of problem fixed internally within	100	100	96	100	

2 days					
--------	--	--	--	--	--

- Users are informed that their issue has been resolved.
- Every users request for IT services and support are record on IT Service Desk Database. After services and support requested has been resolved then responsible staff informed the user that the problem is fixed. Refer to the IT Service Desk report, it's over 92% of services resolved has been informed.
- More than 25% of computer problems are resolved by MOH IT section.

Table 92 Responsible Company after implement new IT Service Desk.

	Responsible Company				
	Info-Tech	MOF IT	MOH IT	OE	TOTAL
No. of faults fixed by responsible Company	26	8	149	3	186
Percentage of Computer faults fixed by responsible Company	15%	4%	80%	1%	100%

12.4.4. Milestones

In providing its services, the following were identified as milestones during the year:

- Procurement of new IT Equipment from World Bank.
- Extend computer network connection:
 - Diabetic Unit
 - New Physiotherapy, Radiology & Ultrasound, Blood Bank, Pathology Laboratory, Inpatient Pharmacy, Obstetric Ward.
 - New Nursery, Operating Theatres, ICU, Day Surgery Reception, CSSD, Surgical Ward.
- Assign Public IP address for Ministry of Health domain (health.gov.to).
- Install internet connection to outer islands Medical Records Section.
- Install internet connection to Central Pharmacy and Medical Store.

12.5. Medical Records

Senior Medical Records Officer in Charge, Ms 'Ofa Mafi is responsible for managing this section and is supported by 8 staff.

12.5.1. Objectives

The section's objectives are:

- To continue training and development of Medical Records staff.
- To have proper completed records.
- To ensure staff understand their job description.
- To have a proper secondary storage area to accommodate all inactive records for future reference, research and education purposes.
- To cull inactive medical records to allow storage space for active medical records.
- Ensure a single record is created to each patient containing all Outpatient and Inpatient history.
- To ensure an accurate and complete electronic PMI is maintained to accurately identify each patient and allocate a single unique hospital number.

12.5.2. Functions

- Ensure all medical record inpatient and outpatient needs are attended to.
- Ensure all admissions, transfer and separation procedures are completed and in order.

- Attend to all health care professionals' requests regarding patients' medical records.
- Ensure notifiable diseases as required by the Public Health Act 1992.
- Issuing of death certificates.
- Ensure the medical records still keep the privacy and confidentiality of patients records.

12.5.3. Financial Allocations

The section was allocated \$3150.00 and was utilized for purchase of office supplies and equipment.

12.5.4. Milestones

In providing its services, the following were identified as milestones during the year,

- Health Information Management Association of Australia conducted in-country training in coding and medical terminology for Health Information and Medical Records staff. Following this training, seven new coders were awarded Certificates.
- Recruited 4 new daily staff to help with the section. On-the-job training is conducted continuously to ensure skilled and committed staff.
- Health Information Specialist Ms Jackie Kent is assisting the Medical Record Section to improve coding skills.
- Staff attended in-country courses like Customer Services and Management Training Programme.
- Short course in ICD-10 Coding in Brisbane, Australia and staff exchange with St. John of God Hospital, Ballarat.

12.6. Health Project

Health Project Officer, Ms Elsie Tupou is responsible for managing this section.

12.6.1. Objectives

The section's objectives are:

- Increase the number of projects approved and implemented.
- To develop a plan for the Ministry's equipment/renovation and new building needs.
- To prioritize and maintaining the Ministry training needs.
- To improve staff knowledge and skills by further training.
- To provide efficient and effective secretarial tasks to the Training Development Committee.

12.6.2. Functions

The section's functions are:

- In collaboration with programme managers to develop, implement and monitor health projects relating to purchase of equipment and renovation of Ministry's building.
- Liaise with project donors in regard to development projects and activities.
- Provide secretariat functions for the Training Development Committee.

Table 93 Statistical Information.

Items	No. of Projects
Total Projects Identified	35
Total Projects Approved	16
On going projects	16
Under process projects.	3

12.6.3. Milestones

In delivering its services, the following were identified as milestones during the year.

- EU Project Program Expenditure Two allocation was approved for a total of up to \$2,374,522.50 to 10 activities to be implemented in 2006.
- EU Project Program Expenditure Three allocated \$521,600.00 for 9 activities.
- Lateral transfer of the Head of Section to the Post of Assistant Secretary to the Hon. Minister of Health.

12.7. Research Unit

Senior Medical Officer, Dr. Sunia Foliaki is responsible for managing the section and is supported by one daily paid clerk.

12.7.1. Objectives

The section's objectives are:

- To be the primary recipient and processor of all health research proposals submitted to the Ministry of Health and its consequent submission to the Director of Health and/or the National Health Ethics and Research Committee.
- To initiate and recommend to the Ministry of Health appropriate health research.
- To conduct specific health research as approved by the Ministry of Health.
- To collaborate and coordinate national and international health research involving the Ministry of Health.
- To ensure that any collaboration is mutually agreed on in terms of conduct of research and Intellectual Property matters.
- To coordinate and develop health research capacity for local staff.

12.7.2. Functions

The section's function are:

- Promote, collaborate and conduct appropriate and high quality health research on priority issues affecting the health of the people of Tonga and the development of national capacity to undertake health research.

Provided below is a summary of the section's activities during the year.

Asthma Self Management Project

A report has been submitted to the Ministry of Health in January 2007 on the progress including Recommendations as a result of this research.

A summary however is hereby outlined

The aims of the study were to assess whether the introduction of asthma education, including asthma self-management plans, will reduce morbidity from asthma

The study specifically wanted to focus on the efficacy of an introduced Asthma Self Management Plan among moderate to severe outpatient asthma clients.

To date at least 279 clients have been registered at the Asthma Clinic. Clients below the age of 10 and above the age of 60 were excluded from the analysis but were seen as clients of course. The mean peak flow increased by 22%, from 346 to 421 $\text{L}\cdot\text{min}^{-1}$, and the percentage of nights woken from sleep due to

asthma equal to or more than 2 nights in the previous week fell from 44% to 14%. A marked decrease from 51% to 1% among participants who were incapacitated for up to a week and from 32% to 5% among those incapacitated for 2 weeks to a month.

The number of admissions for asthma among clients fell from 16 (19%) to only 1 admission for the 12 months period following the introduction of the asthma self management plan.

Most participants commented favourably on the usefulness of the plan and 76% said they had used the Plan in the past 12 months to manage their asthma.

Recommendations from the asthma Self Management Study

Ethical Issues

The results so far from the trial of the Asthma Self Management Plan has already shown clear and significant levels of improvement in asthma care outcomes as reported elsewhere^{1,2,3} and to withhold the adoption of an Asthma Self Management Plan for outpatient asthma care until completion of current study in Tonga is unethical.

Operations

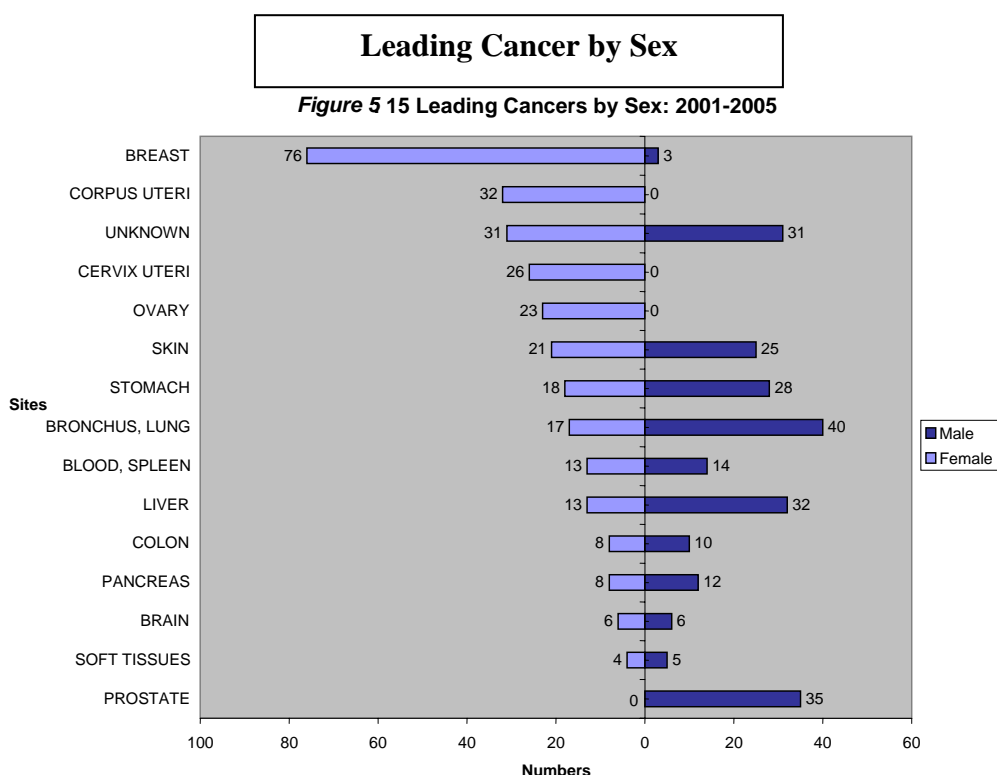
The Ministry of Health's Clinical Services immediately establishes an Asthma Self Management Plan for use by outpatient asthma clients nationwide and to conduct appropriate asthma clinics or incorporate an Outpatient Asthma Self Management Plan for asthmatics into routine outpatient clinics, Health Centres and appropriate service delivery settings nationwide.

The Ministry of Health conduct national in-service training/workshops for appropriate health staff on Asthma Self Management nationwide to facilitate its integration and /or establishment within the health service delivery system.

The Ministry of Health purchase a Spirometer to assist with management of asthma and other chronic respiratory conditions such as Chronic Obstructive Pulmonary Disease.

The Ministry of Health designs an appropriate individualised Management Plan card for routine outpatient use by both adult and paediatric asthma clients.

Table 94 Leading Cancers by Sex.



Cancer has been the second leading cause of mortality in Tonga for more than 5 years now. Tonga's population is projected to yield between at least 500 to 550 cancer cases a year. Despite the lack of a Cancer Registry (the current Registry having been approved in late 2004 with one established staff), available evidence suggests Tonga's cancer pattern to follow those experienced in more industrialised countries with high cancer of the colon, lung and breast cancer among women as opposed to Melanesian countries which follow a developing country pattern. All cases diagnosed with cancer are electronically available from 2001 onwards, likewise deaths due to cancer from 2000. The Cancer Registry now has access to the latter 2 data sets. This has facilitated the management and analysis of more meaningful and accurate data on cancer for research, projection and health planning purposes. As expected there is a significant amount of data missing from the laboratory records even if allowances are made for those cancer cases presenting late that were not actually biopsied for histological examination. A total of 650 laboratory records were available for the last 10 years out of an expected 5,000 cases. Furthermore, less than 20% of expected cancer cases are reported annually to and tabled by the Ministry of Health. Of those that have been tabled and reviewed, there are of course indications of the need for auditing and further training in coding. Some preliminary analysis has now been undertaken is reported in detail in Tonga's Health 2006. Some of the data is tables here.

Table 95 Placement of cancer as a cause of death in Pacific countries

Country (Year of analysis)	Placement (% of deaths attributable to cancer)
Yap (1998-2002)	1st (17 %)
American Samoa (1998-2001)	2nd (16 %)
Guam (1996-2001)	2nd (15 %)
CNMI (1997-2001)	2nd (14 %)
Fiji Islands (1999-2003)	2nd (13 %)
Tonga (1998-2004)	2nd (12 %)
Pohnpei (1998-2002)	3rd (9.2%)
Chuck (1995-2001)	3rd (8 %)
Niue (1999-2003)	2nd

Source: Cancer in the Pacific. Pacific Health Dialog 2004: 11(2).

Table 96 Crude and Age-standardised Annual rates of cancer in Tonga (2000 to 2005) and in Pacific people in New Zealand (1996 to 2000)

	Tonga		New Zealand	
	Crude	Age-standardised	Crude	Age-standardised
Breast (F)	36.8	48.6	54.4	81.8
Ovarian	9.9	12.7	11.1	17.6
Cervical	12.5	16.3	8.5	11.6
Uterine	15.9	20.9	Unavailable	
Lung (F)	8.7	11.5	14.3	25.9
Liver (F)	7.2	9.0	3.6	6.7
Prostate	15.4	22.2	41.2	117.8
Lung (M)	17.2	23.7	38.3	87.7
Liver (M)	13.2	18.6	13.9	23.9

All rates are per 100,000

An area looked at more closely in the breast cancer case control study is the assessment of survival among breast cancer patients and its relation to various biological and management indicators. The above preliminary approval for reconciliation of laboratory data with the Health Planning and Information data would greatly assist the Ministry of Health's effort to secure meaningful and quality cancer data for assessment of prevention and control strategies in cancer.

Table 97 Crude and Age-standardised Annual rates of cancer in Tonga (2000 to 2005) and in Pacific people in New Zealand (1996 to 2000)

	Breast	Ovarian	Cervical	Uterine	Prostate	Lung		Liver	
Year	F					M	F	M	F
2000	21	3	7	10	7	7	6	4	6
2001	15	4	3	8	8	6	1	4	3
2002	16	2	2	10	7	10	1	5	3
2003	7	7	9	10	5	5	4	5	0
2004	19	8	4	1	9	11	5	10	3
2005	19	2	8	3	6	8	6	8	4

Pacific Obesity Prevention in Communities (OPIC) Project:

The OPIC Study is a 5 year study and commenced in 2005; as a collaborative study between the Ministry of Health (Tonga), Fiji School of Medicine (FSM), Fiji Ministry of Health, the University of Auckland and Deakin University of Australia. OPIC has begun collecting data and implementing the OPIC Study in Nukunuku, Houma and Kolonga. The interventions used in this project include education, policy, environmental and social strategies in several settings such as schools, churches, villages and neighbourhoods.

A full time Research Assistant funded by OPIC whose primary task to oversee data management for the OPIC project has been employed since December 2005. This data person has since resigned for further study overseas and only in January 2007 have we been able to conduct an interview for his replacement (no suitable candidate had been identified until January 2007!) His role will include spending one day of the week for the lifetime of OPIC to assist with other health research activities of the Research Unit. This data person is to be based directly under the Research Unit as OPIC's contribution to the establishment of a Research Unit within the Ministry of Health (Tonga).

Training of Health Personnel (Research, Epidemiology and Statistics)

This activity has been carried out in collaboration with OPIC (epi info training) and Massey University (STATA training and introductory epidemiology and statistics lectures).

The nursing school have been invited to request for lectures

12.7.3. Milestones

In delivering its services, the following were identified as milestones during the year,

- **Asthma Self Management Intervention Study:** (i) Phase Two of the study was completed and recommendations arising from the study findings have been submitted to the Ministry of Health
- **Tonga Cancer Registry:** The Research Unit has entered all available laboratory registered cancer cases from 1973 to December 2006. The Tonga Cancer Registry has begun analytic analysis on cancer in Tonga.
- **Tonga Health 2006:** The SMO/Research Unit was invited by Massey University to co-direct the preparation of Tonga's Health 2006 report which is a follow up of Tonga's Health 2000 report prepared previously by AusAid.

13. ACKNOWLEDGEMENT

I wish to acknowledge my appreciation to the Director of Health and all staff of the Ministry of Health for their loyalty, cooperation and dedication during the year, without which much of what is contained in this Annual Report would not have been achieved.

I wish to make special mention of the villages and districts throughout the Kingdom that have embraced and supported the Ministry's efforts to extend its services to the community and request this excellent relationship be continued into the future.

I am indebted to members of the Royal Family, Honourable Ministers of the Crown, Nobles of the Realm, Heads of Government Departments, Development Partners and Agencies, Non Government Organisations which the Ministry was associated with for the valuable partnership and support throughout 2006.

Appendix 1 Officials and Personnel of the Ministry of Health by Posts, 2002- 2006

POST	2006		2005		2004		2003		2002	
	EST POST	POST FILLED	EST POST	POST FILLED	EST POST	POST FILLED	EST POST	POST FILLED	EST POST	POST FILLED
MINISTER OF HEALTH	1	1	1	1	1	1	1	1	1	1
ADMINISTRATION	10	6	9	7	8	6	8	5	8	6
Director of Health	1	1	1	1	1	1	1	1	1	1
Principal Health Planning Officer	1	1	1	1	1	1	1	1	1	1
Principal Health Administrator	1	1	1	1	1	1	1	1	1	1
Senior Health Administrator	1	0	0	0	0	0	0	0	0	0
Health Administrator	4	2	4	3	3	3	3	2	3	2
Hospital Administrator	1	0	1	1	1	0	1	0	1	1
Assistant Secretary	1	0	1	0	1	0	1	0	1	0
MEDICAL STAFF	100	80	103	75	83	63	85	65	88	66
Royal Physician	1	1	1	1	1	1	1	1	1	1
Medical Superintendent	2	2	2	2	2	2	1	1	1	1
Chief Medical Officer	5	2	4	2	4	2	4	2	4	4
Senior Medical Officer	11	9	14	10	15	10	15	12	15	12
Medical Officer Special Grade	10	9	10	4	7	4	7	4	7	4
Medical Officer	30	23	31	22	25	21	26	22	26	14
Chief Surgeon Specialist	1	1	1	1	1	1	1	0	1	0
Anaesthetist Specialist	2	1	2	1	2	2	2	2	2	2
Physician Specialist	1	0	1	0	1	0	1	0	1	0
Obstetrician Gynaecologist Specialist	1	0	1	0	1	0	1	0	1	0
Paediatric Specialist	1	1	1	0	0	0	0	0	0	0
Medical Officer Trainee	2	1	2	1	0	0	0	0	0	0
Supervising Health Officer	1	1	1	1	1	1	1	1	1	1
Senior Health Officer	5	5	5	4	5	4	5	4	5	5
Health Training Co-ordinator	1	0	1	0	1	0	1	0	1	1
Health Officer	16	14	16	16	17	15	19	16	22	21
Health Officer Trainee	10	10	10	10	0	0	0	0	0	0
DENTAL STAFF	52	40	53	43	45	41	46	43	52	37
Chief Dental Officer	1	0	1	1	1	1	1	1	1	1
Principal Dental Officer	2	2	2	2	2	2	2	2	2	2
Senior Dental Officer	5	4	5	4	5	5	5	5	4	4
Dental Officers	7	4	9	6	8	5	9	8	8	7
Senior Dental Therapist	5	3	4	4	4	4	4	4	4	4
Dental Therapist	13	13	13	13	6	6	6	6	8	6
Senior Dental Technician	1	1	1	1	1	1	1	1	1	0
Dental Prosthodontist	1	1	1	1	1	1	1	1	1	1
Dental Technician	2	2	2	2	0	0	0	0	0	0
Dental Receptionist	1	1	1	1	1	1	1	1	1	0
Dental Sterile Supply Assistant	1	1	1	1	1	1	1	0	1	0
Dental Therapist Trainee	5	0	5	0	7	7	7	7	7	0
Dental Chairsides Assistant	8	8	8	7	8	7	8	7	14	12
NURSING STAFF	425	325	421	362	400	315	380	342	385	325
Chief Nursing Officer	1	0	1	1	1	1	1	1	1	1
Matron	1	0	1	1	1	1	1	1	1	1
Assistant Matron	1	0	1	1	1	0	1	0	1	1
Supervising Public Health Sister	1	1	1	1	1	1	1	1	1	1
Senior Nursing Sister	3	2	6	5	5	5	5	5	5	5
Nursing Sister	14	12	18	15	16	14	16	14	15	11
Senior Staff Nurse	26	24	26	22	25	20	25	20	25	18
Assistant Senior Nursing Sister	1	1	1	1	1	1	1	1	1	1
Staff and Student Nurse	235	188	245	219	258	200	228	219	233	211
Staff Nurse Diplomat	51	41	21	21	0	0	0	0	0	0
Principal Q.S.S.N	1	1	1	1	1	1	1	1	1	1
Nursing Sister Graduate	8	5	8	6	8	7	8	7	8	8
Senior Tutor Sister	2	1	2	1	2	2	2	2	2	2
Senior Nurse Midwife	7	7	16	16	9	8	16	15	18	15
Public Health Sister	1	1	2	2	2	2	2	2	2	2
Public Health Sister Graduate	3	2	3	3	3	2	3	2	3	2

Officials and Personnel of the Ministry of Health by Posts, 2002- 2006

POST	2006		2005		2004		2003		2002	
	EST	POST	EST	POST	EST	POST	EST	POST	EST	POST
	POST	FILLED	POST	FILLED	POST	FILLED	POST	FILLED	POST	FILLED
Public Health Nurse	22	9	18	8	20	12	21	11	20	9
Public Health Nurse Midwife	3	2	3	2	3	3	3	3	0	0
Nurse Midwife	10	2	18	12	17	12	20	16	25	16
Senior Public Health Sister	1	0	1	1	1	1	1	1	1	1
Tutor Sister (Graduate)	4	3	4	4	4	4	4	3	4	2
Clinical Nurse Tutor	1	0	1	1	1	1	1	1	1	1
Clinical Nurse Tutor (Graduate)	1	0	1	1	1	1	1	1	1	1
Senior Public Health Nurse	17	13	17	12	14	11	14	11	14	13
Librarian	1	1	1	1	1	1	1	1	1	1
Nurse Practitioner	2	2	2	2	2	2	1	1	1	1
Public Health Senior Nurse Midwife	7	7	2	2	2	2	2	2	0	0
TECHNICAL STAFF	162	115	158	121	161	130	164	132	166	113
Senior Health Promotion Officer	1	0	1	1	1	1	1	1	1	1
Health Promotion Officer	1	0	1	1	1	1	1	1	1	0
Health Promotion Officer Graduate	1	1	1	1	0	0	0	0	0	0
Health Promotion Officer (Education)	1	0	1	1	2	2	2	1	2	1
Health Promotion Assistant Grade II	2	2	2	2	3	2	3	3	3	3
Senior Health Education Technician	1	0	1	0	1	0	1	0	1	1
Senior Health Education Assistant Grade II	1	0	1	0	1	1	1	1	1	1
Health Promotion Officer Grade I	2	1	2	1	2	1	2	2	2	2
Health Promotion Officer Grade II (Education)	3	1	3	0	0	0	0	0	0	0
Health Promotion Officer (Technician)	1	1	1	1	1	1	1	1	1	1
Health Promotion Technician Trainee	1	1	1	1	1	1	1	1	1	1
Supervising Public Health Inspector	1	1	1	1	1	1	1	1	1	1
Senior Public Health Inspector	2	2	2	2	2	2	2	2	3	2
Public Health Inspector Graduate	1	1	1	1	1	1	1	1	0	0
Public Health Inspector	1	0	1	1	1	1	0	0	0	0
Public Health Inspector Grade I	1	1	1	1	1	1	2	2	1	1
Public Health Inspector Grade II	14	10	14	10	11	11	15	11	16	10
Public Health Inspector	1	0	1	0	0	0	0	0	0	0
Public Facilities Attendant	1	0	1	1	3	2	3	2	3	0
Sanitation Officer	5	4	4	4	5	4	5	4	5	3
Water Maintenance Officer	3	3	3	3	3	3	3	3	3	0
Public Health Assistant Grade I	3	2	3	2	3	3	3	3	2	2
Public Health Assistant Grade II	1	2	3	2	3	2	3	2	3	2
Principal Pharmacist	1	1	1	1	1	1	1	1	1	1
Senior Pharmacist Graduate	1	1	1	1	1	1	0	0	0	0
Pharmacist Graduate	1	0	2	2	2	2	3	1	3	2
Senior Pharmaceutical Technologist	1	1	1	0	1	1	1	1	1	1
Assistant Pharmacist Grade I	3	3	3	3	3	3	3	3	3	3
Assistant Pharmacist Grade II	17	17	15	15	14	11	16	13	16	13
Assistant Pharmacist Trainee	6	0	2	0	6	6	6	6	6	6
Procurement Officer	1	1	1	1	1	1	1	1	1	1
Stock Control Officer	1	0	1	1	1	1	1	1	1	1
Principal Medical Scientist	1	1	1	1	1	1	1	1	1	1
Senior Medical Scientist	3	3	3	3	3	3	3	3	3	3
Medical Scientist	4	4	3	2	3	3	3	2	3	2
Senior Laboratory Technician	1	1	1	1	1	1	1	1	1	1
Laboratory Technician Grade I	4	4	4	4	4	4	3	3	4	4
Laboratory Technician Grade II	18	16	15	14	15	12	16	15	16	11
Assistant Laboratory Technician Grade II	1	0	5	4	7	4	7	0	7	0
Senior Radiology Technologist	1	0	1	1	1	1	1	1	1	1
Radiographer	1	0	1	0	1	1	1	1	1	1
Senior Ultrasonographer	1	0	1	1	1	1	1	1	1	1
Radiographer Graduate	1	0	1	0	1	0	1	0	1	0
Assistant Radiographer Grade I	5	2	5	2	5	2	5	2	5	2
Assistant Radiographer Grade II	7	5	7	6	7	6	7	7	9	5
Radiology Technologist	1	1	1	1	1	1	1	1	1	1
Assistant Radiographer Trainee	3	0	3	0	3	0	1	0	1	0
Assistant Radiographer Trainee Grade II	1	0	1	0	1	0	0	0	0	0
Psychiatric Assistant Grade I	2	1	1	0	0	0	0	0	0	0

Officials and Personnel of the Ministry of Health by Posts, 2002- 2006

POST	2006		2005		2004		2003		2002	
	EST	POST	EST	POST	EST	POST	EST	POST	EST	POST
	POST	FILLED	POST	FILLED	POST	FILLED	POST	FILLED	POST	FILLED
Psychiatric Assistant Grade II	7	5	7	5	9	7	9	9	9	7
Mental Health Welfare Officer	2	1	2	1	2	1	2	1	2	0
Psychiatric Social Worker	1	1	1	1	1	1	1	1	1	1
Nutritionist	2	2	2	2	2	2	2	2	2	2
Physiotherapist	1	0	1	1	1	1	1	1	1	1
Occupational Therapist	1	0	1	0	0	0	0	0	0	0
Health Statistics Officer	1	1	1	1	1	1	1	1	1	1
Computer Programmer	1	1	1	1	1	1	1	0	1	0
Computer Operator Grade I	1	1	1	1	1	1	1	1	1	1
Senior Medical Record Officer	1	1	2	0	1	0	1	0	1	0
Health Project Officer	1	1	1	1	1	0	1	1	1	1
Health Planning Officer	1	1	1	1	1	1	1	1	1	0
Senior Sterile Supply Supervisor	1	1	1	0	1	0	1	1	1	1
Sterile Supply Supervisor	1	0	1	1	1	1	1	1	1	1
Sterile Supply Assistant	4	4	4	4	6	5	6	5	6	4
ACCOUNTING AND CLERICAL	58	42	57	47	51	47	50	44	47	43
Senior Accountant	1	1	1	1	1	1	1	0	1	0
Principal Accounting Officer	1	1	1	1	1	1	1	1	1	1
Accounting Officer	2	2	2	2	1	1	1	1	1	1
Senior Hospital Executive Officer	1	1	1	1	1	1	1	1	1	1
Clerk Class I	3	2	3	3	2	2	2	2	2	2
Clerk Class II	3	3	3	3	5	4	5	4	3	3
Medical Record Officer	1	0	1	0	1	0	1	0	1	1
Senior Medical Recorder	1	0	1	1	1	1	1	1	1	1
Medical Recorder	3	2	3	3	3	3	2	2	2	2
Junior Medical Recorder	10	9	10	5	7	7	8	8	6	6
Typist Clerk Grade III	1	1	1	1	1	1	1	1	2	2
Computer Operator Grade II	3	1	3	3	0	0	0	0	0	0
Computer Operator Grade III	7	3	7	5	8	8	6	6	6	5
Computer Assistant	10	7	9	9	10	9	13	12	13	13
Health Registry Recorder	2	2	2	2	2	2	2	2	1	1
Financial Analyst	1	0	1	0	1	0	0	0	0	0
Accounting Officer Diplome	2	2	2	2	2	2	1	0	1	1
Clerk Class III	6	5	6	5	4	4	4	3	5	3
SUPERVISORY AND DOMESTIC	181	137	169	154	193	177	196	160	186	122
Medical Storeman	1	1	1	1	1	1	1	1	1	1
Assistant Medical Storeman	1	1	1	1	1	1	1	1	1	0
Storeman Clerk	1	1	1	1	1	1	1	1	1	0
Store Assistant	4	3	3	3	4	3	4	2	4	3
Chief Cook	2	0	2	2	3	2	3	2	3	0
Assistant Cook	14	13	14	14	15	13	15	13	14	5
Seamstress Supervisor	1	0	1	1	1	0	1	0	1	1
Seamstress	1	0	1	1	4	2	4	3	4	3
Domestic Supervisor	1	0	2	2	2	1	2	1	2	1
Laundry Supervisor	1	1	1	1	1	1	1	1	1	0
Laundryman	5	4	5	5	7	5	7	4	7	3
Laundry Maid	13	11	12	11	13	12	12	10	11	6
Male Orderlies	18	10	16	16	17	15	19	15	18	10
Wardmaids	23	18	23	16	29	22	29	24	28	14
Laboratory Maid	5	4	5	5	5	5	5	5	5	5
Dental Maid	1	0	1	0	1	0	1	1	1	1
Transport Supervisor	1	1	1	1	1	1	1	1	1	1
Senior VIP Driver	1	1	1	1	0	0	0	0	0	0
VIP Driver	1	1	1	1	1	1	1	1	1	1
Driver	27	25	26	23	27	27	26	25	21	21
Senior Driver	1	1	1	1	1	1	1	1	1	1
Mechanic	1	1	1	0	1	1	1	1	1	1
House Keeper	2	2	2	2	4	2	4	2	4	2
Groundskeeper	7	4	7	6	9	5	9	5	9	5
Caretakers	2	2	2	2	2	2	2	2	2	2

Officials and Personnel of the Ministry of Health by Posts, 2002- 2006

POST	2006		2005		2004		2003		2002	
	EST	POST	EST	POST	EST	POST	EST	POST	EST	POST
	POST	FILLED	POST	FILLED	POST	FILLED	POST	FILLED	POST	FILLED
Building Tradesman Leading Hand	1	1	1	1	1	1	1	1	1	1
Steam Maintenance Fitter	1	1	1	1	1	1	1	1	1	1
Boilerman	2	2	2	2	2	2	2	2	2	2
Refrigeration Mechanic	1	1	1	1	1	1	1	1	1	0
Leading Hand Electrician	1	1	1	1	1	1	1	1	1	1
Master	1	0	1	1	1	1	1	1	1	1
Oxygen Plant Operator	1	1	1	1	1	1	1	1	1	1
Engineer	1	1	1	1	1	1	1	1	1	1
Senior Telephone Operator	1	1	1	1	1	1	1	1	1	1
Telephone Operator	4	4	4	4	4	4	4	3	4	4
Painter	1	1	1	1	2	2	2	2	2	2
Senior Hospital Engineer Graduate	1	1	1	1	1	1	0	0	0	0
Plumber	2	1	2	2	1	1	2	2	2	1
Kitchen Hand	2	0	2	2	2	2	2	2	2	1
Plumber Tradesman Leading hand	1	1	1	1	1	1	1	0	1	1
Sewage Plant Operator	1	0	1	1	1	1	1	1	1	1
Hospital Fitter Electrician	1	1	1	1	1	0	2	2	2	1
Hospital Service Foreman	1	0	1	1	1	1	1	1	1	1
Hospital Maintenance Electrician	1	1	1	1	1	1	1	1	1	1
Technician Electromedical	1	1	1	1	1	1	1	1	1	1
Mechanical Supervisor	1	1	1	1	1	1	1	1	1	1
Handyman	1	1	1	1	1	1	2	1	1	0
Hospital Security Officer	6	3	5	5	9	6	10	7	9	8
Security Officer	1	1	1	1	1	1	1	1	2	0
Garbage Removal Supervisor	1	1	1	0	1	1	1	1	1	1
Garbage Remover	3	0	3	3	3	3	3	3	3	2
GRAND TOTAL	989	746	971	810	942	780	930	792	933	713

Source : Civil List
Human Resource Section, Ministry of Health

Description : This table present the staff establishment of the Ministry of Health from 2002 to 2006.

Appendix 2 **Estimates of Health Expenditure and Revenue Government of Tonga,
Fiscal Years 2002/2003 – 2006/2007**

FISCAL YEAR	MINISTRY OF HEALTH GROSS RECURRENT EXPENDITURE	MINISTRY OF HEALTH TOTAL REVENUE	MINISTRY OF HEALTH NET RECURRENT EXPENDITURE	PROJECTED POPULATION OF TONGA	MINISTRY OF HEALTH GROSS RECURRENT EXPENDITURE PER HEAD
2006/2007 (App Bud)	20170094.00	330544.00	19839550.00	102907	196
2005/2006 (Prov)	17021061.00	337528.00	16683533.00	102369	166
2004/2005 (Prov)	13520930.00	371126.00	13149804.00	101865	133
2003/2004 (Act)	11765173.00	336136.36	11429036.64	101404	116
2002/2003 (Act)	10919797.00	298015.79	10621781.21	101002	108

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 3 **Ministry of Health Recurrent Expenditure and Government Recurrent Expenditures:
Government of Tonga, 2001/2002 - 2005/2006**

FISCAL YEAR	HEALTH SERVICES EXPENDITURE	TOTAL GOVERNMENTS RECURRENT EXPENDITURE	% OF TOTAL GOVERNMENT EXPENDITURE
2005-2006 (Est)	14845304	143333724	10.4%
2004-2005 (Est)	13344463	114576468	11.6%
2003-2004 (Est)	11544180	112980798	10.2%
2002-2003 (Act)	10144818	98632662	10.3%
2001-2002 (Act)	9744818	85939341	11.3%

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 Transport Services: 2006

	Vaiola		Ngu		Niu'ui		Niu'eiki		NTT		NF		TOTAL	
	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005
Established drivers	19	17	5	5	2	2	1	1	1	1	1	1	29	27
Un-established drivers	3	2	0	1	0	1	1	1	0	0	0	0	4	5
Number of Vehicles	32	31	7	5	2	2	2	2	1	1	1	1	45	42
Motor cycles	3	0	1	1	1	1	0	0	0	0	0	0	5	3

Source: Transport Section-Manual Data Collection

Description: This table reflects the number of drivers employed by the Ministry, as well as the number of vehicles operated by the Ministry of Health in 2005 and 2006.

Appendix 5 Population by Sex, 1997 – 2006

YEARS	BOTH	MALE	FEMALE
2006	102907	52561	50346
2005	102369	52260	50109
2004	101865	51975	49890
2003	101404	51711	49693
2002	101002	51473	49529
2001	100673	51273	49400
2000	100283	51019	49264
1999	99821	50732	49089
1998	98372	49875	48497
1997	98077	49725	48352

Source: Tonga Population Census 1996 Demographic Analysis, Statistics Department

Description: This data was extracted from the Tonga Population Census 1996 to project the estimated population for 2005. Note that there are slight differences between this table and the Tonga Population Census 1996 but this is attributed to decimal point rounding.

Appendix 6 Population Break Down by Sex and Age Group, 2006

AGE GROUPS	TOTAL	ACCUMULATE %	MALE	FEMALE
ALL AGES	102407	100%	52561	49846
0 - 4	11972	12%	6167	5805
5 - 9	11714	11%	6068	5646
10 - 14	12220	12%	6375	5845
15 - 19	11369	11%	6089	5280
20 - 24	10910	11%	5647	5263
25 - 29	7991	8%	4075	3916
30 - 34	5089	5%	2811	2278
35 - 39	5649	6%	2865	2784
40 - 44	4986	5%	2500	2486
45 - 49	4280	4%	2053	2227
50 - 54	3790	4%	1796	1994
55 - 59	3147	3%	1476	1671
60 - 64	2864	3%	1381	1483
65 - 69	2430	2%	1246	1184
70 - 74	1865	2%	957	908
75 +	2131	2%	1055	1076

Source: Tonga Population Census 1996 Demographic Analysis, Statistics Department

Description: The above data was extracted from the Tonga Population Census 1996 to show the estimated population and age group for 2005 and age group. Please note that there are slight differences between this table and the Tonga Population Census 1996 but this is attributed to decimal point rounding.

Appendix 7 Reported Livebirths, Total Deaths and Infant Deaths Under 1 Year, 2001 – 2006

YEARS	LIVEBIRTHS		DEATHS		INFANT DEATHS	
	TOTAL	CRUDE BIRTH RATE*	TOTAL	CRUDE DEATH RATE *	TOTAL	INFANT MORTALITY RATE **
2006	2716	26.5	514	5.0	29	10.7
2005	2634	25.7	543	5.3	31	11.8
2004	2429	23.8	617	6.1	38	15.7
2003	2658	26.2	588	5.8	34	12.8
2002	2442	24.2	581	5.8	24	9.8
2001	2531	25.1	579	5.7	33	13.0

* 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 8 Reported Livebirths by Age of Mother and District, 2006

AGE OF MOTHER	WHOLE KINGDOM	TONGATAPU	VAVA'U	HA'APAI	EUA	NTT
Under 15	0	0	0	0	0	0
15 - 19	85	70	12	3		0
20 - 24	655	550	71	19	15	0
25 - 29	742	607	85	25	21	2
30 - 34	625	479	87	38	19	2
35 - 39	469	370	63	20	16	0
40 - 44	123	94	21	3	4	1
45 - 49	17	8	3	1	2	3
TOTAL	2716	2178	342	109	77	8

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 1%.

Appendix 9 Reported Deaths By Age And District, 2006

AGE GROUP	WHOLE KINGDOM				DISTRICT				
	BOTH	F	M	Accum %	Tongatapu	Vava'u	Ha'apai	'Eua	Niua's
< 1	29	7	22	6%	22	4		3	
1 - 4	18	8	10	4%	13	4	1		
5 - 14	13	7	6	3%	11	1	1		
15 - 24	14	4	10	3%	8	3	2	1	
25 - 34	15	5	10	3%	10	1	3	1	
35 - 44	41	19	22	8%	29	5	3	4	
45 - 54	61	31	30	12%	45	7	5	4	
55 - 64	73	30	43	14%	48	16	4	5	
65 - 74	110	41	69	21%	82	13	6	8	1
75 +	140	65	75	27%	93	31	9	7	
TOTAL	514	217	297	100%	361	85	34	33	1

Source: Medical Records Inpatient Death Database.
Vaiola Hospital Mortuary Registration Book
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 10 Health Facilities by District, 2006

DISTRICT	LOCATION	ESTIMATED POPULATION	AVAILABLE HEALTH FACILITY		
			HOSPITAL	HEALTH CENTRE	MCH CLINIC
TONGATAPU	Tofoa	70145	1	0	19
	Kolonga	5002	0	1	0
	Mu'a	5663	0	1	0
	Fua'amotu	4055	0	1	0
	Vaini	6287	0	1	0
	Houma	4315	0	1	0
	Nukunuku	3139	0	1	0
	Kolovai	3551	0	1	0
VAVA'U	Neiafu	16458	1	0	5
	Ta'anea	2400	0	1	0
	Falevai	1322	0	1	0
	Tefisi	2487	0	1	0
HA'APAI	Hihifo	8521	1	0	5
	Nomuka	769	0	1	0
	Ha'afeva	1341	0	1	0
'EUA	Niu'eiki	5167	1	0	3
NIUA'S	Niuatoputapu	1343	0	1	1
	Niuafo'ou	769	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 assume that the proportion of the population living in each place remain the same over time.

Appendix 11 Health Services: Hospital Activities, 2006

SERVICES	HOSPITAL				TOTAL 2006	YEARS			
	VAIOLA	NGU	NIU'UI	NIU'EIKI		2005	2004	2003	2002
<u>1. BED CAPACITY AND OCCUPANCY</u>									
Bed Capacity: Beds	199	43	22	17	281	5	303	303	302
Bassinets	38	7	4	2	51	57	57	57	57
Bed Occupancy %: Beds	58%	33%	25%	19%	49%	37%	36%	34%	39%
Bassinets	31%	21%	11%	21%	11%	27%	18%	44%	46%
<u>2. SUMMARY INFORMATION OF PATIENTS:</u>									
Discharge: Adult	7236	731	230	180	8377	6055	6413	6906	6302
Children	1270	176	110	50	1606	1043	942	1173	1026
Infants	200	129	30	38	397	934	764	773	705
TOTAL DISCHARGE	8706	1036	370	268	10380	7381	8119	8852	8033
Deaths: Adult	165	30	5	5	205	152	185	149	184
Children	9	3	3	3	18	13	16	12	7
Infants	9	5	1	2	17	8	30	15	10
TOTAL DEATHS	183	38	9	10	182	182	239	176	201
<u>TOTAL PATIENTS DAYS</u>									
Adult	35640	4329	1324	854	42147	35411	35341	37201	38427
Children	6628	876	654	324	8482	5326	4259	5206	5021
Infants	1260	542	165	154	2121	5550	3785	3853	3995
<u>AVERAGE LENGTH OF STAY</u>									
Adults	5	6	6	5	5	5	6	5	5
Children	5	5	6	6	5	5	5	4	5
Infants	6	4	6	4	5	5	5	5	4
<u>3. CONFINEMENTS:</u>									
Delivery: Normal	1018	338	54	75	1485	2272	2471	2483	2411
Breech	28	7	1	0	36	35	23	38	49
Forceps	39	0	0	0	39	25	28	38	32
Cesarean	264	54	0	0	318	298	270	229	248
Total: Livebirths	2178	342	109	77	2706	2676	2814	2723	2780
Still Birth	14	0	1	0	15	28	20	32	33
<u>4. OUT-PATIENT DEPARTMENT:</u>									
Consultation	58198	23500	12568	11082	105348	129013	129412	140515	157191
<u>5. SURGICAL OPERATION:</u>									
In-patient	1420	149	NA	0	1569	2213	2096	1687	1737
Post Operative Infection	0	0	NA	0	0	3	0	2	7
Death During Operation	0	0	NA	0	0	0	0	0	2
Minor Operation	1740	256	NA	0	1996	2219	1910	2059	2230
Major Operation	885	71	NA	0	956	860	784	766	1066
General	1285	109	NA	0	1394	1392	1505	1579	1655
Spinal	349	92	NA	0	441	376	221	203	186
Local	515	110	NA	0	625	621	439	494	643
<u>6. DENTAL SERVICES:</u>									
Patient Seen	24105	5098	1445	2165	32813	4678	49277	44461	38705

NA: not available

Sources Admission and Discharge Database, Medical Records Section
Obstetric Ward Manual Registration
Outpatient Department Manual Registration
Surgical Ward Manual Registration
Dental Division Manual Registration

Description: This table summarizes major activity in the four main hospitals in Tonga for 2006 and over the last five years.

Appendix 12 Health Services: Health Centre Activities, 2006

ACTIVITY	Whole Kingdom	TONGATAPU							HA'APAI		NIUA'S	
		Mu'a	Kolonga	Fua'amotu	Vaini	Nukunuku	Houma	Kolovai	Nomuka	Ha'afeva	Ntt	Nf
1. Total Patient	34853	11270	4121	5426	2002	2002	3894	6138	Na	Na	Na	Na
Type of Diseases												
Acute Disease	31099	9556	3573	5081	2811	2985	3174	3919	Na	Na	Na	Na
Infectious Disease	6278	3009	0	0	1067	1105	136	961	Na	Na	Na	1429
Chronic Disease	3464	917	15	307	501	516	413	795	Na	Na	Na	Na
Diabetes	2866	789	173	258	100	397	251	898	Na	Na	9	6
Hypertension	1328	268	157	64	18	381	156	284	Na	Na	Na	7
Heart Disease	112	8	3	8	10	13	2	68	Na	Na	6	2
Accident	75	12	11	9	8	12	11	12	Na	Na	Na	Na
Cancer	14	2	0	0	1	1	0	10	Na	Na	Na	Na
2. Total Visit	39562	11967	4112	5546	3343	4182	4376	6036	Na	Na	1492	1735
Age Group												
<2	5790	2254	729	648	553	389	614	603	Na	Na	Na	Na
2-5	5316	1456	591	823	432	590	556	868	Na	Na	Na	Na
6-15	6042	1908	661	782	569	607	635	880	Na	Na	Na	Na
16-25	4219	1284	425	593	428	504	363	622	Na	Na	Na	Na
26-35	4124	1201	429	614	369	516	359	636	Na	Na	Na	Na
36-45	3840	1036	433	590	300	476	393	612	Na	Na	Na	Na
46-55	3186	982	265	451	234	369	334	551	Na	Na	Na	Na
56-65	2955	853	236	410	172	323	327	634	Na	Na	Na	Na
66-75	2580	760	217	310	149	244	476	424	Na	Na	Na	Na
76+	1510	233	126	325	137	164	319	206	Na	Na	Na	Na
3. Health Programme												
Home visits	2661	96	94	71	32	1373	103	892	Na	Na	Na	Na
Preventative	1647	6	386	3	2	329	1	920	Na	Na	Na	Na
Immunisation	331	8	6	1	0	155	18	143	Na	Na	Na	Na

Source: Health Officers' Monthly Report

Description: Summary of the 9 major activities delivered in the health centres and the number of services delivered. The statistics of the three Health Centres in Vava'u are not included in this table due to limited number of Health Officers to run these clinics.

Appendix 13 ENT Clinic: Inpatient and Outpatient Treatment, 2003 – 2006

ACTIVITY	2006	2005	2004	2003
A. TOTAL CONSULTATION	1624	3226	3290	3292
B. CAUSES OF COMPLAINTS:				
Otitis Media (Acute)	177	382	289	389
Otitis Media (Chronic Suppurative)	221	603	616	607
Otitis Media (Serious or Glue)	23	189	157	181
Otitis Externa (All Kinds)	152	246	269	318
Chronic Mastoiditis	5	7	20	9
Rhinitis (All Kinds)	25	63	96	83
Nasal Polypi	27	30	32	50
Sinusitis (Acute & Chronic)	64	42	71	82
Foreign Body (Ear)	66	125	135	170
Foreign Body (Nose)	13	36	19	24
Foreign Body (Trachea or Brochus)	2	0	0	0
Foreign Body (Oesophagus)	2	12	7	7
Eczema	31	126	86	119
Wax Impaction	417	499	699	611
Tonsillitis	30	73	38	49
Quinsy	1	0	1	3
Generalised Pharyngitis	15	36	9	27
Laryngitis (Acute & Chronic)	4	4	5	1
Epiglottitis/Nasal Polyps	4	0	2	1
Laryngo-tracheitis		0	1	1
Epistaxis	26	32	28	36
Tumors (All kind)	20	15	13	10
Thyroid Tumor	8	21	30	52
Trauma (All kind)	10	37	33	38
Others	353	648	634	424
<i>Total complaints</i>	<i>1696</i>	<i>3226</i>	<i>3290</i>	<i>3292</i>
Minor Operations	125	298	302	148
Major Operations	80	221	226	130
<i>Total Operations</i>	<i>205</i>	<i>519</i>	<i>528</i>	<i>278</i>
D. INPATIENTS 5 LEADING CAUSES OF ADMISSION	1) Post-op(42) 2) Epistaxis(2) 3) Epiglottitis (1) 4) Laryngitis(1) 5) Neck Space Infection(2)	1) Post-op care for Tonsillectomy and acute Tonsillitis (21) 2) Sinus surgery including FESS and Sinusitis (20) 3) Polypectomy (16) 4) Thyroidectomy including Parotidectomy & submandibulectomy (13) 5) Mastoiditis and post-op care for Mastoidectomy (6)	1) Post-op care for Tonsillectomy and acute Tonsillitis (19) 2) Sinus surgery including FESS and Sinusitis (16) 3) Thyroidectomy including Parotidectomy & submandibulectomy (12) 4) Polypectomy (9) 5) Mastoiditis and post-op care for Mastoidectomy (9)	1) Sinus surgery including FESS (25) (2) Polypectomy (10) 3) Quinsy/Acute tonsillitis & Post-op care for tonsillectomy (22) 4) Thyroidectomy including Parotidectomy & submandibulectomy (14) 5) Turbinectomies/Ethmoidectomy including Septoplasty (16)
No. of Admission	Na	84	72	87

Source: ENT Section Manual Registration

Description: This table contains the major conditions treated for both inpatients and outpatients as reported by the ENT clinic for 2006 and the previous three years.

Appendix 14 Ophthalmic Clinic: Examination and Treatment, 2006

ACTIVITY	DISTRICT								YEARS		
	VAIOLA		NGU		NIU'UI		NIU'EIKI		2006	2005	2004
	2006	2005	2006	2005	2006	2005	2006	2005			
Routine Test	93	91	0	108	0	225	0	0	517	424	1188
Refraction	207	200	0	235	0	0	0	245	887	680	1578
Conjunctivities	1884	496	0	0	0	0	0	0	2380	496	404
Diabetic eye check	880	1089	0	0	0	0	0	32	2001	1121	593
Presbyopia	1084	470	0	0	0	0	0	0	1554	470	215
Cataract	257	353	0	0	0	0	0	0	610	353	378
Contusions Eye injury	117	149	0	0	0	0	0	0	266	149	40
Pterygium	115	135	0	0	0	0	0	0	250	135	177
Corneal Ulcer	63	50	0	0	0	0	0	0	113	50	50
Glaucoma	1	2	0	0	0	0	0	0	3	2	3
Uveitis	0	49	0	0	0	0	0	0	49	49	20
Review	580	685	0	0	0	0	0	0	1265	685	501
Others	226	132	254	0	0	0	158	0	770	132	661
Minor Surgery	8	23	0	2	0	1	0	0	34	26	25
Major Surgery	77	108	12	18	0	0	0	0	215	126	91
Argon Laser for Retinopathy	190	129	24	8	0	13	0	0	364	150	75
Yag for Capsulotomy	5	10	0	0	0	0	0	0	15	10	5
TOTAL SERVICES	5787	4171	290	371	0	239	158	277	11293	5058	6004

Source: Ophthalmic Section Manual Registration

Description: This table contains the main conditions treated and services provided by the ophthalmic clinic in the four district hospitals for 2006 and the previous two years.

Appendix 15 Vaiola Hospital Outpatient Special Clinics, 2002 - 2006

ACTIVITY	2006	2005	2004	2003	2002
1. DIABETIC CLINIC					
Total Register	2595	2434	2463	2247	2017
No. of Attendances	6662	8277	10094	13984	13837
Dressings	3408	3194	3175	4065	2863
Others	1715	423	6919	9919	3716
Mode of Therapy:					
Insulin and OHA	515	460	415	450	355
Oral Hypoglycemic Agents	1772	1637	1798	1366	1442
Insulin	53	98	30	35	20
Diet Alone	255	285	220	396	200
Special Tests:					
Micro Albuminium	-	-	-	115	20
Glycated Haemoglobin	196	162	411	110	147
No. of new cases	190	209	246	270	209
No. of old cases	2405	2225	2199	1977	1808
2. HYPERTENSION CLINIC					
Responsible Medical Officer (s)	1	1	1	2	2
No. of Attendance's	813	716	1087	1051	1154
Male	525	333	586	581	351
Female	293	383	501	470	803
No. of new cases	NA	41	NA	51	57
No. of old cases	NA	948	1087	1051	1097
3. GENERAL MEDICAL CLINIC					
Responsible Medical Officer (s)	1	1	2	2	3
No. of Attendances	657	686	476	381	303
Total No. of Patients	1183	949	585	413	420
4. CARDIAC CLINIC					
Responsible Medical Officer (s)	1	1	2	2	3
No. of Attendances	1412	1476	1085	785	1320
No. of RHD	NA	NA	NA	NA	3
No. of RHD referred overseas	75	NA	NA	NA	2
No. of IHD	95	NA	NA	NA	0
5. PEDIATRIC CLINIC					
Responsible Medical Officer (s)	2	2	2	2	1
No. of patients	951	605	850	1122	910
Male	302	260	458	400	408
Female	321	181	392	539	502
No. of Attendances	623	441	NA	939	1250
<i>Pediatric cardiac clinic</i>					
No. of patients	425	426	405	104	275
Male	133	165	200	39	108
Female	164	152	185	39	105
No. of Attendances	297	317	385	78	213
6. SURGICAL CLINIC					
Responsible Medical Officer (s)	3	3	3	3	3
No. of patients	2487	1612	1378	1002	2605
Male	827	650	763	650	1130
Female	666	513	615	352	883
7. CHEST CLINIC					
Responsible Medical Officer (s)	1	1	1	2	2
No. of Patients	944	840	913	525	513
Male	227	344	441	182	183
Female	167	283	417	206	185
No. of Attendances	394	627	858	388	308

NA- Not Available

Source: Special Clinics Manual Registration and the Diabetic Database

Description: This table captures the clinician's workload in the seven special clinics, and the numbers of visits for 2006 and the previous four years.

Appendix 16 X-Ray and Ultrasound Examination by Hospitals, 2002- 2006

SITE	YEARS					HOSPITALS		
	2006	2005	2004	2003	2002	VAIOLA	NGU	NIU'UI
CHEST								
Routine investigation for diseases, injuries and reviews	3618	3219	3390	3911	3476	3357	211	50
Routine for injuries	238	170	472	196	259	200	35	3
Routine for government services & visas	1762	1993	1711	1594	1925	1727	35	0
ABDOMEN RADIOGRAPHY	0							
Plain Abdomen	432	298	348	302	348	376	51	5
Ba Meal	35	24	37	52	47	35		
Ba Enema	12	19	40	45	33	12	0	0
(I.V.P and Cystogram) Urography	20	20	44	48	0	20	0	0
Obstetric and Gyenecology radiography Mother & foetus	23	28	21	45	29	0	23	0
Pelvimetry	0	0	0	0	0	0	0	0
Hysterosalpingogram	0	0	1	0	0	0	0	0
Intrauterine Contraceptive Device	3	0	1	0	5	0	3	0
BONE RADIOGRAPHY:	0							
Extremeties	1745	1688	1886	2264	2278	1467	240	38
Thoracic Spine	116	101	78	56	94	62	54	0
Skull & Facial Bones	706	580	805	897	1248	632	74	0
Pelvis & Hips	541	203	262	218	237	267	267	7
Lumbosacral spine	573	304	370	414	376	286	286	1
Cervical spine	209	192	252	304	274	170	35	4
SCREENING PROGRAMME: MISCELLANEOUS								
Myelogram	28	19	12	25	10	28	0	0
Venogram	0	0	1	0	1	0	0	0
Sialogram	0	0	0	0	0	0	0	0
Foreign Bodies	60	41	27	18	12	60	0	0
Ultrasound:	0							
Obstetric	1651	1487	1742	1944	1096	1651	0	0
Upper Abdomen	228	922	914	769	584	228	0	0
Pelvis and Lower Abdomen	857	966	692	476	916	857	0	0
Breast, Thyroid and other small parts	138	226	170	148	131	138	0	0
Echo Cardiography	211	370	379	15	122	211	0	0
TOTAL	13206	12870	13655	13741	13501	11784	1314	108

NA - Not Available

Source: X-ray and Ultrasound Manual Registration

Description: This table contains the number of X-ray and Ultrasound examinations and screenings that were performed in the hospitals in 2006 and the previous four years.

Appendix 17 Laboratory Tests Referred and Performed in the Hospital Laboratories, 2002-2006

TYPE OF TEST	2006	2005	2004	2003	2002	%	TT	VV	HP	'EUA
Blood	164218	156635	160097	155896	160443	95.2%	151052	8768	2708	1690
Urine	3783	8279	7590	6830	8338	2.2%	2717	694	142	230
Stool and Rectal swabs	997	1251	1475	1552	1865	0.6%	937	11	49	0
Sputum	268	541	443	840	1458	0.2%	259	9	0	0
Cerebro-Spinal Fluids	561	317	215	242	243	0.3%	561	0	0	0
Pleural & Other body fluids	561	140	110	194	120	0.3%	561	0	0	0
Skin Scrapping	49	138	173	95	128	0.0%	45	4	0	0
Water	748	15	12	65	474	0.4%	748	0	0	0
Leprosy skin biopsy	0	0	8	0	0	0.0%	0	0	0	0
Medico - legal Test	2	5	2	2	8	0.0%	2	0	0	0
Semen	0	0	5	30	70	0.0%	0	0	0	0
Pus & Other swab	520	1235	1071	1106	1537	0.3%	487	32	1	0
Bone Marrow	0	0	3	7	2	0.0%	0	0	0	0
Cytology	106	109	162	125	104	0.1%	106	0	0	0
Histology	642	522	661	623	664	0.4%	642	0	0	0
Food	0	0	0	0	0	0.0%	0	0	0	0
Tissues	0	0	0	0	0	0.0%	0	0	0	0
TOTAL	172455	169187	172027	167607	175454	100%	158117	9518	2900	1920
Specimens for overseas tests:										
Blood	1418	425	463	457	615	99.5%	1418	0	0	0
Sputum / TB Sensitivity	0	0	0	0	0	0.0%	0	0	0	0
Body Fluid	0	0	0	0	0	0.0%	0	0	0	0
Bone Marrow	0	0	0	0	0	0.0%	0	0	0	0
Block	1	39	0	0	0	0.1%	1	0	0	0
Tissues	0	0	4	27	27	0.0%	0	0	0	0
Urine	6	2	3	1	6	0.4%	6	0	0	0
Miscellaneous	0	1	0	0	0	0.0%	0	0	0	0
TOTAL	1425	467	470	485	648	100%	1425	0	0	0

Source: Laboratory Manual Registration

Description: This table contains the types of tests referred and performed in the hospitals laboratories in 2006 and the previous 4 years.

Appendix 18 Dental Services: Patients Seen & Services Provided by Health Districts, 2002-2006

ACTIVITY	DISTRICTS							TOTAL	YEARS			
	TT	VV	HP	'EUA	NTT	NF	H/C	2006	2005	2004	2003	2002
Number of Patients seen	24105	5098	1445	2165	225	198	499	33735	48759	51538	47180	40206
Adult	20319	3907	1021	1448	192	135	310	27332	40735	37216	36722	30279
Children	2378	1071	299	592	22	43	189	4594	5883	12112	8282	7583
Expectant Mothers	1408	120	125	125	11	20	0	1809	2141	2210	2266	2344
Services Rendered	38467	6505	2489	4256	657	822	447	53643	100177	97605	108163	50175
Oral Examination	24105	5098	1445	2165	225	198	499	33735	48841	41425	47180	40206
Dental Extraction:												
Total No. of teeth removed	15438	2829	906	804	116	81	282	20456	19815	25607	36719	21497
Caries	10589	1957	490	422	52	42	186	13738	14140	16194	20956	14824
Perio	3802	765	279	225	53	23	75	5222	4905	3675	15763	1696
Conservative:												
Temporary Fillings	5320	874	261	349	52	86	74	7016	11938	9477	12039	10760
Permanent Fillings	3444	1025	49	351	53	48	22	4992	10779	7956	5994	4997
Simple Amalgam	798	208	22	149	27	11	13	1228	3170	2611	2301	2176
Compound Amalgam	633	190	19	101	26	8	4	981	2335	1776	1265	1187
Composite Amalgam	1610	541	8	77	0	29	5	2270	2892	2147	1563	1629
Endodontic Treatment	403	86	0	24	0	0	0	513	2317	2788	1075	952
X-rays (Periapical)	535	46	1	8	0	0	0	590	807	1362	1034	907
Preventive:												
Oral Hygiene Instruction	3089	1017	113	349	52	86	74	4780	2279	2536	47130	5765
Scaling	423	100	5	25	20	6	3	582	912	1007	708	667
Polishing	677	26	50	55			6	814	759	720	660	356
Gingival treatment	97	0	0	0	0	0	0	97	0	36	206	137
Antibiotic Therapy	1252	282	132	200	19	10	15	1910	2029	2692	2553	2818
Dental Prosthetic:												
a. Full Upper	134	66	0	0	0	0	0	200	132	52	98	68
b. Full Lower	120	50	0	0	0	0	0	170	125	36	95	65
c. Partial Upper	262	40	0	0	0	0	0	302	190	279	187	289
d. Partial Lower	86	24	0	0	0	0	0	110	50	135	81	86
e. Repair	159	68	0	0	0	0	0	227	177	168	273	271
f. Rebase	0	0	0	0	0	0	0	0	1	5	13	11
g. Relining	5	7	0	0	0	0	0	12	14	22	35	24
h. Easing	20	0	0	0	0	0	0	20	37	80	92	123
Orthodontic Therapy	49	0	0	0	0	0	0	49	35	18	46	4
Operations:												
a. Minor Oral Surgery	338	46	NA	10	0	0	0	394	305	372	159	848
b. Major Oral Surgery	50	5	NA	0	0	0	0	55	38	72	NA	45
c. OMF Surgical	NA	NA	NA	NA	NA	NA	NA	0	NA	0	0	0
School Visited:												
Primary School	30	0	5	10	5	8	0	58	72	77	80	61
Secondary School	0	0	0	2	2	1	0	5	1	9	10	0
No. of Visits to School	56	0	86	12	20	8	0	182	206	471	150	174
No. of Children participating	5147	0	729	2105	172	572	0	8725	12206	15492	15267	0
Fluoride Programme:												
Pre-school	0	0	3	0	0	0	0	3	6	5	3	0
Primary school	30	0	5	0	0	0	0	35	17	12	10	0
No. of Children examine & treated with fluoride oral hygiene	5147	0	729	0	0	0	0	5876	3589	2385	3563	0
No. of visits to these school	208	0	48	0	0	0	0	256	690	76	66	0
Fissure Sealant Prog:												
No. of Children participating	641	0	188	0	0	0	0	829	1128	76	66	0
No. of teeth seal	1822	0	243	0	0	0	0	2065	4225	0	0	0

NA - Not Available

Source: Dental Division Manual Registration

Description: Statistics of the main services delivered by the Dental Division in 2006 and the previous four years, and a profile of the patients receiving these services. These services are delivered in hospitals and some health centres.

Appendix 19 Psychiatric Ward Admissions, 2002-2006

CAUSES	2006	2005	2004	2003	2002
Schizophrenia	49	30	50	88	82
Schizoaffective disorder	2	0	3	8	8
Bipolar mood disorder	36	23	42	65	56
Acute and transient psychotic disorder	0	2	0	2	1
Personality and behavioural disorder due to brain disease, damage and dysfunction	1	3	0	4	0
Other Non-Organic psychosis	3	3	2	0	0
Delusional disorder	1	1	1	1	2
Other anxiety disorder	0	0	0	1	0
Other non-organic psychotic disorder and panic disorder	0	0	0	0	0
Dementia	4	3	5	5	7
Other mental disorder due to brain damage, and dysfunction and physical disease	2	2	2	3	10
Mental retardation	7	1	10	4	1
Mental and behavioural disorders due to use of alcohol	1	0	0	2	0
Mental and behavioural disorders due to use of cannabinoids	4	0	0	2	0
Conduct disorder		1	1	6	8
Mental and behavioural disorder due to psychoactive substance use	3	4	6	8	3
Non-organic sleep disorder, unspecified	0	0	0	0	0
Dissociative (conversion) disorder	1	0	0	0	0
Borderline Personality disorder	0	0	0	0	0
Other schizophrenic-like disorder	0	0	0	2	0
Obsessive compulsive disorder	0	0	0	0	0
Acute stress disorder	0	0	0	0	0
Panic disorder	0	0	0	0	0
Alcohol withdrawal	1	1	0	0	0
Adjustment disorder with parasuicidal act	4	3	0	0	0
Schizotypal Disorder	2	1	0	0	0
Medical induced movement disorder	0	0	0	1	3
Adjustment disorder	17	4	7	26	2
Recurrent depressive disorder	0	0	1	7	10
Depressive episode	3	0	0	1	1
Conduct disorder and Organic Amnestic	0	1	0	0	0
Mental Retardation and Bipolar affective disorder	7	3	0	0	0
Mental and behavioural disorder associated with the puerprum NEC	0	0	0	0	0
Dissocial personality disorder	0	1	1	3	0
Manic episode	7	4	3	0	3
Tic disorder	0	0	0	0	0
Paranoid Personality disorder	0	0	0	2	0
Mental disorder, not otherwise specified	0	2	0	5	2
TOTAL ADMISSIONS	155	93	134	246	199

Source: Mental Health Ward Manual Registration

Description: Statistics on the causes of admission to the Psychiatric Ward for 2006 and the previous four years

Appendix 20 Queen Salote School of Nursing Student Roll, 2003-2006

Class	No. Students		Graduates	Resigned	Termination
	1/01/2005	31/12/2005			
2003	26	21+1*	0	*	4
2004	30	26	0	0	4
2005	42	*38	0	0	4
2006	31	31+2*=33		1	
TOTAL	98	107	0	0	12

- One student was referred for Overseas treatment but is still on the QSSN Roll.

Source: Queen Salote School of Nursing Student Roll

Description: Total number of new nursing students recruited at the beginning of each training program since 2003. This also indicates the number of students that successfully completed the training program, and those who left without completing.

Appendix 21 Laundry Services Provided, 2006

Equipment / Activities	Washing Equipment						Washing		Labelling
	W/Mach	Dry Spinner	Dryer	Roller	Presser	Loads	Pieces	Uniform	New Linen
No	3	2	3	-	1	3974	134204	-	4630

Source: Mental Health Ward Manual Registration

Description: Statistics on the causes of admission to the Psychiatric Ward for 2005 and the previous four years.

Appendix 22 Ante Natal Clinic Attendance (New) by Trimester and District, 2006

TRIMESTER	TONGA		TT		VV		HP		'EUA		NIUA'S	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Early (12 weeks)	189	7	117	6	17	4	36	21	7	5	12	32
I (13-20 weeks)	678	26	447	24	119	30	53	31	45	34	14	38
II (21-32 weeks)	1199	46	836	45	226	57	58	34	70	53	9	24
III (33+)	502	19	439	24	33	8	18	11	10	8	2	5
No Booking	39	1	29	2	4	1	5	3	1	1	0	0
TOTAL	2607		1868		399		170		133		37	

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 2006.

Appendix 23 Causes of Complaint During Pregnancy, 2006

CAUSES	TONGA	TT	VV	HP	'EUA	NIUA'S
	No.	No.	No.	No.	No.	No.
1. Bleeding Ante Postpartum	31	20	10	Nil	1	Nil
2. Hypertension	71	51	16	1	1	2
3. Diabetes	68	59	6	1	1	1
4. Teenage Pregnancy	71	51	13	6	1	Nil
5. Elders (too old)	261	132	65	30	27	7
6. Frequent births (less than 2 yrs)	427	292	56	38	33	8
7. Too many children (more than 4)	624	423	130	45	20	6
8. Anaemia	69	48	7	14	Nil	Nil
9. Other	22	18	2	2	Nil	Nil
TOTAL	1644	1094	305	137	84	24

Source: Reproductive Health Section

Description: Statistics of the major causes of complaints during pregnancy by district for 2006.

Appendix 24 Deliveries by Attendant and Place of Birth, 2006

Place of Birth	Traditional Birth Attendant	Medical Officers	Nurses	Health Officers	Others	No. of Deliveries for 2006	No. of Deliveries for 2005
Home	41	1	16	2	11	71	86
HC & Clinics	0	5	20	4	0	29	37
Hospital	0	731	1753	67	0	2551	2558
Others	0	3	0	0	1	4	1
TOTAL	41	740	1789	73	12	2655	2682

Source: Reproductive Health Section Manual Registration

Description: This table provides statistics on the location of deliveries and the type of personnel attending the delivery for 2006. This information was compiled by Public Health Nurses. This number of deliveries counts all livebirths irrespective of whether the babies have been issued a Certificate of livebirth or not.

Appendix 25 Immunization Programme Coverage, 2006

Immunization	Tonga				Tongatapu		Vava'u		Ha'apai		'Eua		Niua's	
		Tot	Imm.	%	Tot	Imm.	Tot	Imm.	Tot	Imm.	Tot	Imm.	Tot	Imm.
BCG	1	2667	2665	99.93%	1917	1917	426	424	162	162	128	128	34	34
POLIO	1	2581	2580	99.96%	1883	1882	392	392	158	158	118	118	30	30
	2	2404	2401	99.88%	1756	1754	365	365	150	150	106	105	27	27
	3	2240	2222	99.20%	1638	1620	344	344	133	133	98	98	27	27
HEP B	1	2663	2663	100.00%	1939	1939	403	403	162	162	128	128	31	31
	2	2454	2452	99.92%	1756	1754	392	392	158	158	118	118	30	30
	3	2358	2356	99.92%	1756	1754	344	344	133	133	98	98	27	27
DPT/HIB	1	2581	2580	99.96%	1883	1882	392	392	158	158	118	118	30	30
DPT/HIB	2	2404	2398	99.75%	1756	1754	365	365	150	147	106	105	27	27
DPT/HIB	3	2233	2215	99.19%	1638	1620	344	344	133	133	98	98	20	20
MR	1	2627	2618	99.66%	1890	1885	401	398	182	182	124	124	30	29
	2	2160	2144	99.26%	1527	1514	364	362	124	123	117	117	28	28
DPT	4	2105	2088	99.19%	1527	1514	312	309	124	123	114	114	28	28
TOTAL		31477	31382	99.70%	22866	22789	4844	4834	1927	1922	1471	1469	369	368

Source: Reproductive Health Manual Registration

Description: This table shows the type immunization provided by Public Health Nurses, the coverage rate of immunization for 2006.

Appendix 26 Infant Nutritional Mode, 2006

Nutritional Mode	TONGA		Tongatapu		Vava'u		Ha'apai		'Eua		Niua's	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
A. Exclusive Breast Feeding:												
(4 - 12 months)	1590	69	1096	47	304	69	135	100	71	79	18	78
B. No Breast Feeding:												
(4 - 12 months)	150	6	109	5	20	5	18	13	1	1	2	9
C. Breast Feeding with Supplement:												
(4 - 12 months)	574	25	427	18	36	8	21	16	18	20	3	13
Total No. of Mother's interviewed	2314		1625		441		135		90		23	

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 2006.

Appendix 27 Number of New Acceptors by Method, 2006

DISTRICT	IUD	PILL	CONDOM	RHYTHM	VAS	TUB	DEPO	OTHERS	TOTAL
Tongatapu	111	303	118	50	0	105	577	2	1266
Vava'u	9	87	19	12	0	31	122	0	280
Ha'apai	18	22	24	9	0	10	71	0	154
Eua	12	6	7	nil	0	3	31	0	59
Niua's	4	3	4	7	0	5	11	0	34
TFH	0	0	0	0	0	0	0	0	0
Total	154	421	172	78	0	154	812	2	1793
%	9%	23%	10%	4%	0%	9%	45%	0%	100%

Source: Reproductive Health Manual Registration

Description: This table shows the number of new users of contraceptives by method for the main islands of Tonga in 2006.

Appendix 28 Total Contraceptive Users by Method and Age, (Method Mix), 2006

AGE GROUP	IUD	PILL		CONDOM	RHYTHM	VAS	TUB	DEPO	OTHERS	TOTAL
		C	M							
Below 20	3	3	6	5	3	0	Nil	32	0	52
20 - 24	63	30	81	52	19	0	Nil	300	0	545
25 - 29	125	82	111	94	53	0	51	482	2	1000
30 - 34	152	91	85	118	67	1	165	446	2	1127
35 - 39	147	72	57	79	59	0	314	372	3	1103
40 - 44	112	27	20	17	36	0	367	195	0	774
45 +	33	9	5	5	17	2	154	78	0	303
TFHA	83	149	0	244	0	0	0	168	0	644
TOTAL	718	828		614	254	3	1051	2073	7	5548

C:- Combined

M:- Mini-pill

Source: Reproductive Health Manual Registration

Description: This table shows the contraceptive users by method and age group for 2006.

Appendix 29 Reasons for Discontinuation of Family Planning, 2006

REASONS	IUD	PILL	CONDOM	RHYTHM	DEPO	OTHERS	TOTAL
Over Age	5	1	0	2	8	0	16
Want a child	23	58	53	29	151	0	314
Client Failure	0	14	16	24	29	0	83
Method Failure	11	0	0	0	0	21	32
Husband refusal	0	0	6	0	9	0	15
Pregnant	3	49	48	22	104	0	226
Migrated Out	5	11	5	6	5	0	32
Nurse failure	0	0	0	0	4	0	4
Side effect	3	10	0	0	23	0	36
Other	5	9	0	18	0	70	102
TOTAL	55	152	128	101	333	91	860
Tongatapu	42	95	77	53	225	48	540
Vava'u	6	132	64	39	196	0	437
Ha'apai	7	5	2	7	28	13	62
'Eua	4	15	12	0	48	29	108
Niua's	1	4	4	5	6	5	25

Source: Reproductive Health Manual Registration

Description: This table shows statistics of those who discontinue using contraceptive methods based on patient reported reasons for 2006 by district.

Appendix 30 Tuberculosis Case Notification, Detection and Cure Rates, 2003-2006

Year	Smear Positive	Smear Negative	Extra Pulm TB	Retreatment Cases	Total	Notification (All types)	CASE DETECTION	
							All type	Smear Pos
							WHO est. (89/100000)	WHO est. (40/100000)
2003	11	3	2	0	16	16	18%	28%
Cure rate					88%			
2004	8	3	1	0	12	12	14%	30%
Cure rate					88%			
2005	11	3	5	0	19	19	21%	48%
Cure rate					89%			
2006	14	3	1	0	18	18	20%	35%
					100%			
Total	52	11	10	2	65	65		
Ave. Cure rate					91%			

Source: Communicable Disease Manual Registration

Description: This table shows the reported TB cases, cure rates and the case detection from 2003 until 2006

Appendix 31 Confirmed Curable STI's by Age and Gender, 2006

Age Group	Gonorrhoea		Trichomonas		Others		Total
	Male	Female	Male	Female	Male	Female	
10 - 15	0	1	0	0	0	0	1
16 - 20	17	1	0	0	0	0	18
21 - 25	29	2	0	0	0	0	31
26 - 30	12	4	0	0	0	0	16
31 - 35	5	0	0	0	0	0	5
36 - 40	1	1	0	1	0	0	3
41 - 45	0	0	0	0	0	0	0
46 - 50	0	0	0	0	0	0	0
51 - 55	1	0	0	0	0	0	1
Total	65	9	0	1	0	0	75

Source: Communicable Disease Manual Registration

Description: This table presents the number of cases of Sexually Transmitted Infections for 2006 by age group and sex.

Appendix 32 Environmental Health Services by District, 2006

Sanitary Inspection:	Tongatapu	Vava'u	Ha'apai	'Eua	Total
Allotment:					
Occupied allotment:	8447	5323	1549	1258	16577
Unoccupied allotment:	1261	288	115	287	1951
Building:					
Dwelling House:	8346	4811	1471	924	15552
Public Dwelling:	489	323	78	47	937
Bath Facilities:	8217	4420	1544	907	15088
Kitchen Facilities	8237	4406	1530	914	15087
Water Supply:					
Piped	6953	4444	327	754	12478
Well	61	14	8	0	83
Water Tank	6049	2645	1579	676	10949
Toilet Facilities:					
Septic Tank	5646	2703	327	491	9167
Water Seal Toilet	1990	32	10	123	2155
Pit Toilet	734	70	1208	310	2322
Household without	33	9	4	28	74
Food Premises Inspection:					
Wholesale Store	18	13	3	4	38
Retail Store	706	304	75	47	1132
Restaurant	86	24	3	2	115
Bakeries	11	9	2	1	23
Aerated Water Factory	1	0	0	0	1
Snack Bars	12	7	2	0	21
Canteen	27	0	0	0	27
Butcher Shop	6	0	0	0	6
Ice – Cream Factory	11	0	1	0	12
BBQ	45	0	2	0	47
Hawkeries	44	0	6	2	52
Refuse Disposal:					
Collection Services	359	0	0	0	359
Burn	340	3856	1549	485	6230
Bury	7181	375	55	486	8097
Meat Inspection:					
Bovine Carcass	28	0	0	9	37
Pork Carcass	6	0	0	6	12
Hospital Waste:					
Sharp	5330kg	0	0	0	5330kg
Clinical	10184kg	0	0	0	10184kg
General	1765kg	0	0	0	1765kg
Food Premises Registration:					
Wholesale Store	18	8	3	4	33
Retail Store	706	308	75	47	1136
Restaurant	86	24	3	2	115
Bakeries	11	9	2	1	23
Aerated Water Factory	1	0	0	0	1
Ice Cream Factory	11	0	1	0	12
Snack Bars	12	7	2	0	21
Butcher Shop	6	0	0	0	6
BBQ	45	0	2	0	47
Hawkeries	44	23	6	0	73
Food Handler	2004	401	16	73	2494
Water Sampling Collection:	55	21	0	0	76

Environmental Health Services by District, 2006

Sanitary Inspection:	Tongatapu	Vava'u	Ha'apai	'Eua	Total
Building Plan:					
Public Building	53	0	5	3	61
Private Building	164	3	8	10	185
Septic Tank	205	3	13	13	234
Sites	217	3	13	13	246
Quarantine Services:					
Number of ship arrivals	191	54	3	0	248
Number of pratique issues	191	54	3	0	248
Community Education:					
Public Meeting	32	26	15	24	97
Radio Programme	8	4	0	0	12
TV Programme	3	0	0	0	3

Source: Environmental Health Manual Registration

Description: This table present the major environmental health activities undertake in 2006 and the previous three years.

Appendix 33 Medically Certified Causes of In-Patient and Out-Patient Deaths by Age Group, 2006

CAUSES	Total			<1		1-4		5-14		15-24		25-34		35-44		45-54		55-64		65-74		75+	
	T	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD	20	6	14	2	11	4	2											1					
Bacterial sepsis of newborn	1	0	1		1																		
Cardiovascular disorders originating in the perinatal period	1	0	1															1					
Disturbances of potassium balance of newborn	3	0	3		2		1																
Extreme immaturity	3	1	2	1	2																		
Intrauterine hypoxia	2	1	1	1			1																
Neonatal aspiration syndromes	8	4	4		4	4																	
Other disturbances of cerebral status of newborn	1	0	1		1																		
Respiratory distress of newborn	1	0	1		1																		
CERTAIN INFECTIOUS AND PARASITIC DISEASES	35	20	15			2		2		1	1			3		3	3	2	6	4	2	3	3
Bartonellosis	1	0	1															1					
Diarrhoea and gastroenteritis of presumed infectious origin	2	2	0			1		1															
Sepsis due to Staphylococcus	29	15	14					1		1	1			3		3	3	2	5	3	2	2	3
Unspecified infectious diseases	1	1	0																			1	
Viral infection	2	2	0			1													1				
CONGENITAL MALFORMATIONS, DEFORMATIONS AND CHROMOSOMAL ABNORMALITIES	1	0	1		1																		
Other congenital malformations, not elsewhere classified	1	0	1		1																		
DISEASES OF THE BLOOD-FORMING ORGANS AND CERTAIN DISORDERS INVOLVING THE IMMUNE MECHANISM	3	2	1															1				1	1
other anaemias	1	0	1																				1
Other aplastic anaemias	2	2	0															1				1	
DISEASES OF THE CIRCULATORY SYSTEM	195	65	130		1		1	1	1	4	1	5	7	14	8	14	10	25	16	33	22	32	
Acute myocardial infarction	23	5	18								1		1	2	1	4	2	4		8			
Aortic aneurysm and dissection	1	0	1																			1	
Cardiac arrest	70	21	49				1			1		3	1	8	3	6	3	8	7	8	7	14	
Cardiomyopathy	2	1	1										1									1	
Chronic ischaemic heart disease	13	7	6												1		2	3	1	2	3	1	
Complications and ill-defined descriptions of heart disease	4	1	3		1							1								1	1		
Heart failure	41	16	25					1				1		4	1	1	1	4	6	5	8	9	
Hypertensive heart disease	1	0	1															1					
Intracerebral haemorrhage	3	1	2													1					1	1	
Myocarditis in diseases classified elsewhere	1	0	1																	1			
Oesophageal varices in diseases classified elsewhere	1	1	0					1															
Other diseases of pericardium	1	0	1																			1	
Other pulmonary heart diseases	5	1	4												1	1				2		1	
Other rheumatic heart diseases	3	1	2							2			1										
Other venous embolism and thrombosis	2	1	1										1					1					
Pulmonary embolism	1	1	0										1										
Rheumatic fever with heart involvement	1	1	0																1				
Sequelae of cerebrovascular disease	1	0	1																	1			
Stroke, not specified as haemorrhage or infarction	21	7	14							1			1		1	1	2	4	1	5	2	3	
DISEASES OF THE DIGESTIVE SYSTEM	21	8	13					2	2	1				2		2	4			4	2	2	
Cholecystitis	2	0	2																	1		1	
Dentofacial Anomalies	1	1	0																			1	
Fibrosis and cirrhosis of liver	1	0	1													1							

CAUSES	Total			<1		1-4		5-14		15-24		25-34		35-44		45-54		55-64		65-74		75+	
	T	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Hepatic failure, not elsewhere classified	10	4	6					2	2		1					1		2		2			
Other disease of intestine	1	0	1																	1			
Other disease of liver	1	0	1											1									
Other diseases of digestive system	2	2	0															2					
Paralytic ileus and intestinal obstruction without hernia	1	0	1											1									
Peptic ulcer, site unspecified	2	1	1																		1	1	
DISEASES OF THE GENITOURINARY SYSTEM	30	15	15													2	3	5	5	6	4	2	3
Acute renal failure	3	2	1															1	1			1	
Chronic renal failure	15	7	8													2	3	3	4	2			1
Hyperplasia of prostate	1	0	1																				1
Other disorders of kidney and ureter, not elsewhere classified	1	0	1													1							
Unspecified renal failure	10	6	4													2		1	1	2	2	1	1
DISEASES OF THE NERVOUS SYSTEM	4	2	2				2					1								1			
Cerebral palsy	1	0	1				1																
Encephalitis, myelitis and encephalomyelitis	1	0	1				1																
Meningitis due to other and unspecified causes	2	2	0									1								1			
DISEASES OF THE RESPIRATORY SYSTEM	57	28	29	1		1	2	1						1		2	1	2	1	3	11	17	14
Acute upper respiratory infections of multiple and unspecified sites	1	0	1																				1
Asthma	1	1	0															1					
Bronchitis, not specified as acute or chronic	1	1	0																	1			
Other chronic obstructive pulmonary disease	13	3	10															1		2	6		4
Other respiratory disorders	5	0	5				1													2			2
Pneumonia, organism unspecified	13	11	2	1																		10	2
Pneumonitis due to solids and liquids	3	2	1			1	1																1
Respiratory failure, not elsewhere classified	12	4	8					1						1		1		1		2	2	4	
Status asthmaticus	1	1	0																			1	
Unspecified acute lower respiratory infection	7	5	2													2				1	3	1	
ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES	10	4	6	1	2									1				2		1			3
Other disorders of fluid, electrolyte and acid-base balance	1	0	1		1																		
Retarded development following protein-energy malnutrition	1	0	1																	1			
Type 2 diabetes mellitus	7	3	4		1									1				2					3
Volume depletion - dehydration	1	1	0	1																			
EXTERNAL CAUSES OF MORBIDITY AND MORTALITY	1	0	1								1												
INJURY, POISONING AND CERTAIN OTHER CONSEQUENCES OF EXTERNAL CAUSES	21	10	11	1	1		1	1		3	1	1	3		2	2				1	1	1	2
Adverse effects, not elsewhere classified	1	0	1																				
Burn of head and neck	1	0	1				1																
Complications of procedures, not elsewhere classified	1	0	1									1											
Crushing injury of thorax and traumatic amputation of part of thorax	1	0	1							1													
Effects of other external causes	3	2	1		1					2													
Foreign body in respiratory tract	1	0	1											1									
Injury of unspecified body region	2	1	1													1							1
Open wound of neck	1	0	1									1											
Other and unspecified injuries of head	7	4	3					1				1	1		1				1			1	1
Other injuries of lower limb, level unspecified	1	1	0							1													
Toxic effect of other and unspecified substances	1	1	0													1							
Motor or nonmotor-vehicle accident, type of vehicle unspecified	1	0	1							1													
Toxic effect of other noxious substances eaten as food	1	1	0	1																			
MENTAL AND BEHAVIOURAL DISORDERS	1	1	0																	1			

CAUSES	Total			<1		1-4		5-14		15-24		25-34		35-44		45-54		55-64		65-74		75+	
	T	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Other disorders of adult personality and behaviour	1	1	0																	1			
NEOPLASMS	71	38	33	1	2	1	1		2		1	2	1	7	3	14	2	4	4	7	10	2	7
leukaemia of unspecified cell type	1	0	1								1												
Malignant neoplasm of bladder	1	0	1																				1
Malignant neoplasm of brain	6	3	3	1		1			1			1			1				1				
Malignant neoplasm of bronchus and lung	7	4	3												1	1		1	1	2	1		
Malignant neoplasm of cervix uteri	2	2	0											1				1					
Malignant neoplasm of gallbladder	2	1	1																	1			1
Malignant neoplasm of gum	2	0	2													1					1		
Malignant neoplasm of kidney, except renal pelvis	3	1	2				1		1					1									
Malignant neoplasm of liver and intrahepatic bile ducts	7	3	4											1	1	1		1	1		1		1
Malignant neoplasm of oesophagus	1	0	1																				1
Malignant neoplasm of other and ill-defined digestive organs	1	1	0									1											
Malignant neoplasm of other and ill-defined sites	4	2	2		1											2							1
Malignant neoplasm of other connective and soft tissue	1	0	1																		1		
Malignant neoplasm of ovary	1	1	0													1							
Malignant neoplasm of prostate	5	0	5															1		3			1
Malignant neoplasm of small intestine	1	1	0											1									
Malignant neoplasm of stomach	2	1	1								1					1				1			
Malignant neoplasm of testis	1	0	1		1																		
Malignant neoplasm without specification of site	3	1	2																	1	1	1	
Malignant neoplasms of breast	10	10	0											2		6		1		1			
Myeloid leukaemia	2	1	1									1				1							
Neoplasm of uncertain or unknown behaviour of female genital organs	1	1	0																	1			
Other and unspecified types of non-hodgkin lymphoma	1	1	0																	1			
Other benign neoplasms of connective and other soft tissue	1	1	0											1									
Other malignant neoplasms of skin	3	2	1													1	1					1	
Squamous cell carcinoma	1	0	1																				1
Secondary malignant neoplasm of other sites	2	1	1																	1	1		
SYMPTOMS, SIGNS AND ABNORMAL CLINICAL AND LABORATORY FINDINGS, NOT ELSEWHERE CLASSIFIED	41	18	23	1	3		1		1		1		1		1		5		1	2	2	15	7
Haemorrhage, not elsewhere classified	2	0	2													2							
Other ill-defined and unspecified causes of mortality	1	1	0																	1			
Other sudden death cause unknown	2	0	2		1																1		
Other symptoms and signs involving the circulatory and respiratory systems	13	1	12		2		1		1		1					2		1		1	1	2	
Other symptoms and signs involving the digestive system and abdomen	2	1	1		1																	1	
Senility	17	12	5																			12	5
Shock, not elsewhere classified	4	3	1	1												1				1		1	
Unknown and unspecified causes of morbidity	1	0	1											1									
TOTAL	514	217	297	7	22	8	10	7	6	4	10	5	10	19	22	31	30	30	43	41	69	65	75

Source: Medical Records Inpatient Death Database.
Vaiola Hospital Mortuary Registration Book
Death Certificates issued by the Ministry of Health.

Description: This table displays the statistics of specific causes of deaths by sex and age group for 2006.

