

## **Research Unit**

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

## **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.

## **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**

The Research Unit has completed at least 12 months of conducting a special clinic for all asthmatics (all age groups) in Tongatapu. A Total of 179 clients were seen at the asthma clinic in 2005 as compared to 212 seen in 2004. Of the initial 159 asthmatics that were regularly reviewed and participated in 2005 in the Asthma Self Management Project, 80 have completed a second interview to evaluate the impact of the study.

## **Cancer in Pacific Populations Study**

This study has 3 arms: (i) a descriptive analyses of cancer incidence and mortality in Tonga; (ii) a case – control study of breast cancer in women in Tonga beginning from the 1<sup>st</sup> January 2005 to 31<sup>st</sup> December 2006; (iii) the women with breast cancer who agree to participate in the case-control study will also form the basis of a follow-up study, which will examine factors that determine cancer survival. Eleven cases of cancer of the breast were diagnosed and referred to Vaiola in 2005. Only 3 of these clients have been interviewed and registered to participate in the study, the rest wither being overseas, passed away without the chance to be interviewed or not yet contacted.

The study is closely linked to the establishment of Tonga’s Cancer Registry detailed below. A similar study is being carried out in Fiji, Samoa and Niue as well as among Pacific people in New Zealand.

## **Cancer Registry**

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 flow a developing country pattern. All laboratory reports of cancer cases have been collected from 1990 to now. All cases diagnosed with cancer are electronically available from 2001 onwards, likewise deaths due to cancer from 2000. Preliminary discussions have been undertaken ad has enables the cancer registry to have 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 to those cancer cases presenting late that were not actually biopsies 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. A full analysis has not been done given the amount of work needed to enter and verify more than 10 years of data. However certain patterns stand out to support that Tonga’s cancer incidence and pattern does in fact comply with those ween in developed countries. Other “interesting” findings are a high than expected incidence of endometrial cancer and a disproportionate high number of breast cancers among a younger age group. 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.

## **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) PROJECT.** 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. 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. Initially the newly employed OPIC Research Assistant was 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). This has not followed and is being looked into.

## **Prevalence of Group B Streptococcus (GBS) among pregnant women in Vaiola Hospital**

The Research Unit is a Co-Investigator of the above study with the Paediatric Unit as Principal Investigator.

## **Training of Health Personnel (Research, Epidemiology and Statistics)**

A limited number of lectures were given to final year nurses of the Queen Salote School of Nursing on research and epidemiology. These however were and are conducted on an ad hoc basis awaiting final integration of research methodology and epidemiology and statistics into the nursing curriculum. It is hoped that other health sections would encourage closer collaboration and involvement of the Research Unit within their programmes for improving and evaluating their activities as they see appropriate.

## **Milestones**

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

### **Asthma Self Management Intervention Study:**

- Phase one of the study was completed with over 170 cases of asthma seen and followed up. Secondary interviews were conducted to assess the impact of the intervention.
- The study was commenced in Vava'u in January 2006. Preliminary results were encouraging with the mean daily Peak Expiratory Flow Rate (PEFR) readings increased by 17% from 352 l.min<sup>-1</sup> to 413 l.m<sup>-1</sup>. Similarly, asthmatics reporting having woken from sleep needing a reliever 2 or more nights over the last 7 days fell from 51% to 14% over a 6 month period.

The special clinic for asthmatics is supported and in collaboration with Dr Sione Latu (Medical Ward) and Dr Toakase Fakakovi (Paediatric Ward).

### **Tonga Cancer Registry:**

The Research Unit has entered all available laboratory registered cancer cases from 1990 to now. The total records available as referred to above indicate a gross underestimation of projected incidence for Tonga. The Unit has recently (January 2006) been granted approval to download cancer registered cases from the Health Planning and Information Division. Merging of data from the Health Planning and Information with the Laboratory data has served as an "audit" for other mortality data at both sources. The Tonga Cancer Registry hopes to report preliminary descriptive findings in the first 2 months of 2006 given access to Ministry of Health figures.

In terms of data quality it is evident (as alluded to above) that training in coding is highly recommended for both clinicians and coders alike, given our reliance on reported figures for reporting, projection and planning purposes. It would of course serve to minimise inappropriate classification of cancer as well as other diseases. It is also evident that a conciliation of laboratory, Health Planning and Information as well as cancer data from other areas including the outer islands and individual wards and doctors is more than desirable.