

Monitoring non-communicable disease (NCD) mortality in Pacific Island states

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I. Background and Objectives

Background. Many Pacific Island states are affected by **morbidity (illness)** and **excess premature adult mortality** with **plateaux in life expectancy** (demographic effects) from **NCD**

Including **heart disease and stroke, diabetes, cancer, and chronic lung disease**

Due to change in diet and nutrition (**increase in intake of animal fat, salt, and energy**), **tobacco and alcohol** consumption, and **less physical activity**

Which are **preventable** through **population health promotion** to modify behaviours, and **alteration of cost and availability of unhealthy products**; and **individual health service interventions**

NCD surveillance measures **magnitude/distribution of health effects**, and **effectiveness of interventions**: 1. **population surveys NCD/risk factors**; 2. trends in **level/cause of NCD mortality**

Objectives. 1. Alleviate difficulties in Pacific Island states in **monitoring trends in NCD cause of premature death** by analysis of current difficulties in certification, coding, tabulation, and analysis

2. Evaluate **innovative tools and analyses** as applied to available incomplete, disrupted and dislocated cause of death data affected by considerable selection and measurement biases

3. Pilot **innovative analyses using IRIS software for semi-automated coding and selection of underlying cause of death** to produce **more accurate and usable NCD cause of death trends** in the **short and medium term to inform public health and health promotion policy**

I. Outcomes

A: Networking

Multilateral international meetings Review of existing situations in Pacific states

1. School of Public Health and Community Medicine SPHCM **UNSW Sydney Australia. 24 Nov 2015**

Contacts present: Fiji Ministry of Health (MoH), Samoa MoH, Tonga MoH, SPHCM UNSW 4. Total 7

2. Institute de Recherche pour Développement **IRD Nouméa Nouvelle Calédonie (NC). 3 Dec 2015**

Contacts present: NC: UNC 1, DASS 1, CHT 2; Vanuatu MoH 1; SPHCM UNSW 2; SPC 2. Total 9

Bilateral international networking (continuing). Intensive cause of death analyses on de-identified death certificate data (containing all causes of death on the certificate) provided confidentially.

Fiji: Analysis of 25,116 deaths 2007-2010 (complete) containing listed causes of death (coded) in sequence in Part I and Part II of death certificate to produce underlying cause of death (multiple cause analysis)

Samoa: Analysis of 2,666 death certificates (text) and 673 deaths in Apia hospital (coded) from 2011-13 using available incomplete samples of deaths.

Tonga: Analysis of cause of death 2,500 deaths from 2010-14 after deduplication; to be extended to 2000.

Full network of contacts Fiji: MoH Health information Unit, Fiji National University (Medicine, etc). Samoa MoH. Tonga MoH. Vanuatu MoH. New Caledonia: UNC, DASS, CHT. France: INSERM / UPMC. UK: LSHTM. Australia: SPHCM UNSW

I. Outcomes

A: Deliverables

(1) Evaluation of successes/challenges of **pilot analysis of NCD cause of death data from 3 Pacific Island countries: Fiji, Samoa, Tonga**

Assessment of difficulties in: death registration, certification of cause of death, coding, data entry, selection of underlying cause of death, tabulation of deaths by cause, display of results, reporting

(2) Development of **programed spreadsheets for analysis of mortality data** to produce:

Age-standardised total mortality, probability of dying (over age intervals) and **life tables** from tabulated total deaths and populations (with 95% confidence intervals)

Cause specific proportional mortality and age-standardised mortality from tabulated cause specific deaths and populations (with 95% confidence intervals)

<https://sphcm.med.unsw.edu.au/centres-units/international-ncd-research-group/downloads>

These spreadsheets have been extensively used in training courses and by personnel in Pacific Island states for preparation of reports

(3) Use of **IRIS semi-automated coding of causes of death from text** from death certificates, and **semi-automated selection of underlying cause of death from coded causes of death**

These analyses were undertaken on cause of death data from Fiji, Samoa and Tonga with the development of algorithms for **alternative scenarios for selection of underlying cause of death**, in a multiple cause of death context. Results discussed with Pacific contacts, analyses continue