

**Screening for Non-Communicable  
diseases and Early Evaluation of  
Chronic Kidney Disease Project,  
Samoa.**



(The **SNEEK** Project)

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Non-communicable diseases (NCD) especially Diabetes Mellitus and Hypertension have taken the world by storm. From the economic perspective, a major portion of health budget is being eaten off by NCD.

This is especially so in the under developed and developing countries. These diseases are unfortunately regarded as “Silent killers” as they produce end organ damage without much of symptoms in the earlier stages. Primary prevention aims at diagnosing these diseases at a very early stage as well as identifies disease modifiers like Obesity, Dyslipidemia and Smoking. Education on life style modification goes a long way in disease control.

One of the major end organ damage caused by these NCD is Kidney, which ultimately results in end-stage renal disease (ESRD). Supporting patients with ESRD has a tremendous impact on health budget, even in the most developed countries. Secondary prevention aims at providing holistic care to NCD and prevent end organ damage not only to the kidneys, but also provides eye care, podiatry care, dietetic advice, life style modifications etc.

Chronic Kidney disease (CKD) is not widely recognized in the Pacific Islands in general and in Samoa in particular. This is one of the most important emerging health problems and this is likely to grow over the coming years. This is because the prevalence of Hypertension and Diabetes Mellitus stood at 19% and 23% respectively as per the last survey of 2001 and the current numbers may be worse. Furthermore, the World Health Organization’s estimates of prevalence of these diseases in the developing countries are alarming. The case for early diagnosis and prevention of CKD resonates even more if data about the prevalence of CKD is inferred from US cohort studies. Extrapolations from the NHANES data suggest that 5 to 10 % of the US population has CKD.

The goals of this proposal are to generate data that helps to establish CKD as a compelling public health problem in Samoa and to embark on initiatives targeted at prevention of kidney disease. This project is all the more crucial to motivate actions in a country where resources are preciously fought over. The SNEEK project (**S**creening for **N**on Communicable Diseases and **E**arly **E**valuation of Chronic **K**idney Disease project) aims specifically to do this.

We are aware that there is no national health survey in any of the Pacific islands. This SNEEK pilot project of Samoa will offer a SNEAK preview and sheds light on the major predictors of Kidney Failure. This may pave the way for making Samoa a leader in the area of dialysis and prevention and shine itself as the regional headquarters for the entire Pacific.

***Aim 1: Establish Chronic Kidney Disease (CKD) as an important public health problem in Samoa***

**Hypothesis 1:** Awareness of Kidney failure is catching up in Samoa after establishing the maiden haemodialysis facility for the Pacific in Samoa. Kidney disease is an under- recognized health problem in the entire Pacific. Awareness of this problem will culminate in nationally based actions targeted at prevention.

This aim will be accomplished by implementing a national program to:

- a) Establish and implement a kidney disease screening and detection program
- b) Determine the prevalence of kidney disease and its major causes and complications
- c) Characterize the risk factors for CKD in the population and assess whether these risk factors are in line with established CKD populations worldwide
- d) Develop predictive risk factor models for CKD and its complications

***Aim 2: Develop and implement an education program in CKD care targeted at high risk individuals***

**Hypothesis 2:** Increased education of Physicians, General Practitioners and general public will enhance the earlier recognition and management of CKD in the population.

- a) Describing the current status of health education related to CKD in Samoa
- b) Establishing a conference and generating a consensus report of health education experts, local and international kidney disease opinion leaders, and governmental and non-governmental experts in formulating a plan to improve kidney disease education
- c) Developing education material to educate the population about kidney disease
- d) Conducting CME courses to educate primary care physicians (GP's) about early detection of CKD and its prevention.

## Screening Questionnaire

### 1. Demographics:

Name-----  
                    First                                    Middle Initial                                    Last

Address-----  
-

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Telephone Number: Day.....Evening.....

Screening date: date/month/year -----/-----/-----

Date of Birth: -----/-----/----- Age-----Gender: M / F

Religion: Christian/ Muslim/ Sikh/ Buddhist / Hindu/

Others. Specify.....

### 2. What is the highest grade of education attained?

- a) None
- b) Upto Primary
- c) Upto O levels
- d) Upto A levels
- e) Some college
- f) College Graduate
- g) Postgraduate or professional

3. Occupation: .....

4. Family Income: .....WST per month

### 5. About Diabetes Mellitus:

- a) Have you ever been diagnosed with diabetes or told that your blood sugar is high? Yes / No If Yes, how many years ago?.....
- b) Did you have diabetes only during pregnancy? Yes / No / NA
- c) Are you taking oral medication? Yes / No

d) Taking only Insulin? Yes / No

e) Or a combination of both? Yes / No

**6. About Hypertension:**

a) Have you ever been diagnosed with high blood pressure or told that your  
Blood pressure is high? Yes / No If Yes, how many years ago?.....

b) Are you on medications? Yes / No

c) Do you take medications regularly? Yes / No

**7. Have you ever been told that you have blood / protein in the urine? Yes / No**

**If Yes, how many years ago was it diagnosed/ told.....**

**8. Have you or any blood relative, living or deceased have any of the following?**

	<b>I have had</b>	<b>Family member</b>
a) Heart attack/ bypass surgery/ angioplasty	Yes / No	Yes / No
b) Stroke	Yes / No	Yes / No
c) Heart failure	Yes / No	Yes / No
d) Abnormal heart rhythm	Yes / No	Yes / No
e) Urinary infection	Yes / No	Yes / No
f) Anemia	Yes / No	Yes / No
g) Limb amputation	Yes / No	Yes / No

**9. Family history:**

a) How many siblings do you have? -----

**b) Who in your family have been diagnosed with?**

	<b>Hypertension</b>	<b>Diabetes</b>	<b>Kidney Disease</b>
<b>Mother</b>	Yes / No	Yes / No	Yes / No
<b>Father</b>	Yes / No	Yes / No	Yes / No
<b>Brother/s (.....)</b>	Yes / No	Yes / No	Yes / No
<b>Sister/s (.....)</b>	Yes / No	Yes / No	Yes / No

**10. Do you smoke?** Never / past / Present    How many packs/day?.....  
Since how many years? -----

**11. Do you drink alcohol?** Never / Past / Present    How many glasses/day?.....  
Since how many years? -----

**12. Food Habit:** Vegetarian  
Consume at least one meal containing meat/egg.....times/week

**13. Do you exercise? How often?.....**

**14. Are you on any medications?** Yes / No

If yes, specify.....

**15. Have you had any past surgeries?** Yes / No

If yes, specify.....

**16. Have you had any other medical problems?** Yes / No

If yes, specify.....

**To be completed by the physician:**

1. Height (without shoes) ..... meters.....centimeters
2. Weight (without shoes).....KG
3. Body fat assessment.....%
4. Waist-Hip Ratio.....
5. Body mass Index(BMI).....
6. Blood pressure( Sitting)  
1<sup>st</sup> reading: Systolic.....Diastolic.....mmHg  
2<sup>nd</sup> reading: Systolic.....Diastolic.....mmHg  
Specify arm used R /L  
Time BP measured AM / PM
7. Plasma glucose measured.....mg/dl (how many hours since last meal?)
8. Random Cholesterol level.....mg/dl
9. Plasma Creatinine .....mg/dl  
MDRD GFR.....ml/min/1.73M<sup>2</sup> BSA
10. Hb .....gm /dl
7. Urine dipstick: Albumin positive / negative  
Glucose positive / negative  
Blood positive / negative
8. Is the patient hypertensive and/ or increased plasma glucose? Yes / No  
If yes, spot urine albumin / creatinine ratio .....