



Rotary Club of Brighton

PNG Diabetes Health Initiative

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District 9800



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The Sugarman Project: Fighting Diabetes in Bougainville



Background



Dr Janine Rowse

In 2008, Dr Janine Rowse and her friend, Rebecca Houghton, a nurse, made a personal visit to Bougainville, PNG, to undertake health education in the troubled island, which had, in recent years, been the site of a long and bloody civil war. The widely recognized health issues in Bougainville are malaria, HIV/AIDS, infant diarrhoea and pneumonia. However, they discovered that one of the more alarming but less talked about issues was that of No 2-Type Diabetes – brought on largely as a result of dramatic life style changes, such as diet. They found that diabetic complications in Bougainville often resulted in leg amputations, renal failure and blindness.

That year, the Rotary Club of Brighton provided some very limited support to Janine and Rebecca on this first trip, during which they introduced the concept of “Sugarman” – or “Sik Suga” and “Sugaman” as he became known locally. “Sugarman” is an interactive educational aid. The indigenous people are introduced to a life-sized illustration and associated teaching aids to the workings of the human body and the impacts of ingesting inappropriate quantities of sugar-based foods. Huge numbers of people turned out to see and hear these two young doctors, who became known as the “Sugar Doctors from Australia”, as they travelled throughout the northern parts of Bougainville. So successful was this introductory trip, that the Rotary Club of Brighton saw an opportunity to build on this initial enterprise and asked Janine if she would be interested in returning to PNG in 2010 to continue her work.



“Sik Suga” presentation in a Bougainville village in January 2009

The Rotary Club of Brighton, in keeping with all other Rotary Clubs and the principles of Rotary International, is always on the look out for new opportunities upon which they can devote their time, energies and financial resources to make life-changing impacts and this project seemed to fit the mould perfectly.

First Steps

During the first few months of 2009, a proposal, with full costings for a return to PNG, was developed and presented to the Club's Board. The key challenges were to ensure that any activity was with the support and encouragement of the local people in Buka, who had been so helpful on the first trip. Chief of these was Dr Joe Vilosi, in charge of Buka Hospital and himself a dedicated and committed doctor, who is devoted to his people and works relentlessly for those in his care and beyond.

Communications in Bougainville are basic when working and non-existent for much of the time, so keeping regular contact with Dr Vilosi was a challenge. However, when he heard about the plans for a return visit, he was delighted it could happen and promised to make the next trip even more successful in terms of areas covered and people seen. Working with Dr Vilosi was Rayleen Soli, the local pharmacist.

In early April, 2009, a proposal, which highlighted the following, was finalised:

Objectives:

- *To spend approximately 4-6 weeks in Bougainville, PNG in early 2010 systematically doing Sugarman presentations as well as sexual health education throughout the Bougainville region.*
- *The main focus would be on primary schools, high schools, Parliament House, police stations, health centres and villages, as well as radio as a means of reaching more people.*
- *Health Workers at all health centres and the hospital would be educated on conducting Sugarman presentations, so these can be continued beyond our return.*
- *These presentations would be accompanied by Dr Joe Vilosi and Rayleen Soli (pharmacist).*
- *As well as the Sugarman presentations, we would conduct screening for diabetes and high blood pressure. Positive diagnoses would be referred to Dr Vilosi for follow up at the hospital.*

Expected Outcomes:

- *Primary prevention of diabetes through education of the risk factors, early warning signs and management of diabetes mellitus to locals in the Bougainville region, PNG.*
- *Population screening for diabetes and high blood pressure (Western lifestyle diseases) following Sugarman presentations, with positive cases referred to Dr Vilosi at Buka General Hospital for treatment.*
- *Education of the Health Extension Officers at Buka General Hospital, Health Centres and Aid Posts into the early signs of diabetes, early detection and prevention, as well as how to conduct a Sugarman Presentation.*

Next Steps

During the first few weeks of the 2009/2010 Rotary year, the proposed budget was supported by the Rotary Club of Brighton Board to undertake the PNG Diabetes Health Initiative and support it with both funds and medical supplies.

In October 2009, Dr Janine Rowse came to a meeting of our Club and made a presentation that was both inspirational and riveting. She talked about her (and Rebecca's) experiences the previous January in PNG and captivated the members and guests to such an extent that, at the end of the meeting, members had committed personal donations of \$2,500 towards the "Return to PNG" and there was interest from a couple of Rotarians to travel to PNG to support the effort.

It was agreed that the trip would take place in January and February, 2010 with Janine and a new colleague on the team - Dr Sarah Cash. Rebecca, who had accompanied Janine the previous year, had subsequently travelled to the UK and been offered a nursing job in London, which meant she could not take part in the second adventure. Janine, however, had contacted a fellow doctor, who studied with her and currently works in Adelaide, and it was Sarah who committed herself to take part in the return to the island.

The Participants

Dr Janine Rowse

Janine is based at The Royal Melbourne Hospital and, in 2010, commenced a Master of Public Health with International Public Health specialization. She was previously a Rotary Youth exchange student and spent a year in France sponsored by a Victorian Rotary Club. Her special areas of interest are health promotion and education, community and child health.

Dr Sarah Cash

Sarah is based at the Women's and Children's hospital in Adelaide. She commenced a Diploma of Obstetrics in 2010. Her special areas of interest are health promotion and education, maternal and fetal medicine.



Dr Sarah Cash (left) & Dr Janine Rowse (right) collecting essential data from local people



Dr David Grodski (left) presenting a Rotary Club of Brighton banner to the Speaker of Parliament and Helen Grodski enjoying time in transit with Dr Joe Vilosi from the Buka General Hospital



The Medical Challenge

Infectious disease, maternal and child health have been the main focus of health resources and research in PNG. Unfortunately, as more of the population adopts aspects of 'Western' diet, diseases such as diabetes, hypertension and coronary heart disease are becoming more common leading to amputations, blindness and renal failure.

There is a genetic predisposition towards glucose intolerance in the PNG population. Rapidly changing dietary patterns:

Changing more steadily in urban areas and nearby villages

Urban adults more likely to be overweight than rural adults

Diabetes rates increase with economic development

In PNG, diabetes and other lifestyle diseases, such as coronary artery disease, are higher in *richer groups*, e.g. politicians, civil servants, etc.

It is estimated that there are over 200,000 people in PNG suffering from diabetes and, of these, only 5,000 are known to health services. That means that more than 97% of people are undiagnosed.

There are very limited medical resources available to treat those that are known to suffer from diabetes, so it is impossible to manage the end stage complications of diabetes such as:

Leg amputations: no prosthetic limbs

Kidney failure: no dialysis

Coronary artery disease: myocardial infarcts

Blindness: no aids for the visually impaired

Why are we focusing on diabetes?

It is 100% preventable through education. There is currently almost zero awareness of diabetes and its tragic consequences. Diabetes will not become a recognized health issue until the tragic consequences are widespread, which means it will be too late. It is a direct result of the influence of western diet.

This is why we have introduced the concept of "Sugaman" as a PRIMARY PREVENTION PROGRAMME



An amputee (above) who lost his right leg and a right foot (left) suffering the consequences of Diabetes just prior to amputation.

Registration with RAWCS

It was imperative that this initiative be registered as a Rotary Australia World Community Service (RAWCS) project and this was done in January 2010. The District officers who were responsible for this registration were superb in getting the relevant materials into the system and approving them within a very short space of time and the activity was registered by John Roberson, RAWCS Deputy National Project Coordinator, on January 16, 2010. Particular thanks should go to Bob Glindermann, Chairman, and Colin Burns, Rotary Volunteers, for their assistance in facilitating the registration of our project.

Rotary Club of Port Moresby

Of course, no individual Rotary Club can undertake a project of this size and logistical intricacy without the help of another Club in the target country. This role fell to the Rotary Club of Port Moresby. Anyone who has had dealings with this Club will know how willing they are to provide every support that could possibly be imagined and were generous and unstinting in their hospitality. Their International Service Director, Ernest Lohberger, was an incredible source of information and expertise from the time of first contact in early 2009 until the end of the project a year later. Also, Monica Salter, Assistant Governor, was a tower of strength during negotiations.

Once the participants arrived in Port Moresby, these two individuals proved themselves more than ready to practise the principles of Rotary, as they hosted not only the two doctors but also one of our Rotarians and his wife, who made the journey to PNG.

Presentations

In the time that the group was in Bougainville, they made 26 presentations, with groups from several dozen to hundreds at each, and screened over 2000 individuals.



Publicity and Media Outcomes - Print

NEWS



SWEET: The sugar awareness team is led by Dr Janine Rowse, from Royal Melbourne Hospital, Melbourne and Dr Sarah Cash, from Flinders Medical Centre, Adelaide who are spearheading this awareness.

Aust urges govt to fight diabetes

By GORETHY KENNETH

THE Government must be seen to help fight Sik Suga, or Sik diabetes which is increasing in Papua New Guinea due to increasing consumption of processed, high sugar foods.

An Australian non-government organisation, the Rotary Club of Brighton, Victoria has embarked on a new awareness program in Bougainville by sponsoring this project in the region. Dr Janine Rowse, from Royal Melbourne Hospital, Melbourne and Dr Sarah Cash, from Flinders Medical Centre, Adelaide are in Bougainville spearheading this awareness-into their second week- with the assistance from Dr Joe Vilosi, Ricky Vilosi and

Rayleen Soti (Pharmacist) travelling to most parts of Buka and scheduled for Central and South Bougainville later this month. They call themselves the Sugaman team and are conducting many presentations in North Bougainville, to teach Bougainvilleans about Sik Suga, its prevention, and how to stop the disease. Presentations have already been done at Gogobe, Lemamamu, Buka police station, Buka administration, Buka General Hospital and the team is now travelling to Gagan, Pororan, Petata, Taiof, Saposa. Also to Arawa, Tisputz, Waropa and Wakunai.

"Sugaman" is fun and interactive educational to teach people about Sik Suga.

The work of the group that went to Bougainville was widely reported in The Post-Courier on Wednesday, February 3 and Friday, February 19. Additionally, The National carried a story on Wednesday, February 24.

High rate of diabetes in B'ville

HEALTH authorities in PNG's Autonomous Region of Bougainville are worried about the alarming rates of diabetes and high blood pressure in the region. Buka Hospital chief executive officer Dr Joe Vilosi said thousands of people in Buka and Arawa had been diagnosed with related illnesses. Dr Vilosi said the increase in these preventable diseases is due to lifestyle changes. A team of doctors from Victoria, Australia, and local medical health workers supported by the Rotary Club of Brighton, had been travelling around Bougainville testing residents and creating awareness on diabetes.

NEWS

Diabetes rife in B'ville

By GORETHY KENNETH

ALARMING rates of diabetes and high blood pressure are threatening thousands of Bougainvilleans, the sugaman team travelling the island revealed.

Dr Joe Vilosi, Dr Janine Rowse (Royal Melbourne Hospital), Dr Sarah Cash (Flinders Medical Centre), Dr David Gredski, Nurse Helen Gredski (Rotary Club of Brighton) and Rayleen Soti are travelling the region testing and creating awareness on diabetes.

Supported by the Rotary Club of Brighton, Victoria, Australia, the team visited Petata, Pororan, Hanahan, Taiof, Saposa, Lemamamu, Buka town, Buka hospital, Malasseng, Gagan, Gogobe. This week the team will go to Waropa, Arawa, Wakunai, Pispis and Habela after church on Sunday.

"Approximately one in 10 people in Buka have diabetes or high blood pressure.

"If diabetes is not recognised and treated, it can result in kidney failure, blindness, chronic infections, leg ulcers and amputations.

"Diabetes is preventable and curable through lifestyle changes, eating local foods and getting active or doing exercise.

"Some people with high blood pressure have dangerously high levels, if this is not treated it can result in heart attacks, stroke, kidney failure and blindness," they said.

"Sugaman lives at Buka airport to welcome all visitors to Bougainville and remind them to choose "kalkal blong pies" - a billboard that has been placed at the airport to create awareness for the people of Bougainville.



Dr Vilosi checking the blood pressure of a patient.

Publicity & Media Outcomes - Radio & Billboard



Local Radio

Dr David Grodski and Dr Janine Rowse during an interview session with the local Bougainville Radio Station in Buka.

Dr Joe Vilosi is looking on.



Billboard at Buka Airport

The group commissioned a local company to erect what is the only Billboard at Buka airport - promoting the "Sugaman" concept and encouraging healthy diet. The Rotary Club of Brighton and the participants are visibly acknowledged.

What is “Sugarman” (“Sugaman” in pidgin)?



History of Sugarman

Sugarman was developed by Mike Porter, a registered nurse and diabetes educator at Flinders Medical Centre, Adelaide. The purpose of the project was to be able to educate indigenous people about the dangers of diabetes in a way that is:

- effective
- interactive
- simple and easy to understand
- culturally sensitive
- appropriate to all age levels and
- provides an incentive for individuals and groups to make life-style changes



“Sugarman” (continued)

It is based on the storytelling tradition of indigenous people and uses “Sugarman” to hold the attention of the audience as they literally walk around his body.



Carbohydrates (e.g. bread) are followed from mouth to stomach; broken down into sugar (illustrated by foam pieces), which then enter the blood. Participants holding the ‘sugar’ pieces walk up and down the blood, learning about the body’s need for glucose as energy in muscle tissue. It is

then easy to see the action of insulin (the key, produced in “Sugarman’s” visible pancreas) in enabling sugar to enter the muscle tissue. An audience participant becomes the lazy muscle doorman, not allowing sugar and ‘the key’ to enter the muscle, demonstrating the cause of diabetes. The sugar cubes unable to enter the muscle find themselves stranded elsewhere in “Sugarman” - his eyes, kidneys, heart and feet - hence explaining the complications that come from diabetes.



Screening and Data Collection

One vital part of the overall exercise was to collect as much information on the prevalence of diabetes and the blood pressure readings of the population. To this end, the team took 10 blood pressure monitors with them



(which were subsequently donated to local medical centres) and insulin testing equipment. Around 2000 individuals in Bougainville were tested for sugar and blood pressure.

Outcomes

Dr Rowse and Dr Cash spent 5 weeks in Bougainville. Dr and Helen Grodski were in the country for 3 weeks. A great deal was achieved by the team in that time, including, amongst others, the following:

Diabetes education programmes and promotions

- 26 public Sugarman presentations
- Presentation to Parliament
- Presentation to ABG Administration
- Multiple radio programmes
- Print media exposure
- School presentations
- Production & distribution of Sugarman T-shirts
- Sugarman billboard at Buka airport

Medical screening & medical initiatives

- 2100 free blood sugar and blood pressure screenings
- 200 people started on medication (antihypertensives and/or oral hypoglycemics)
- 90% follow up treatment with Dr Vilosi (Buka General Hospital)
- Donation of 10 blood pressure machines and glucometers to health centres and hospital wards
- Staff educated in use of machines and interpretation of results
- Glucometers donated to long-term patients

General outcomes

- Establishment of a “healthy life-style” group
- Regular walking groups set up
- Positive feedback (we actually understand “sik-suga” and “Sugaman” would not be happy!)
- Pre and post Sugarman surveys
- Development of a baseline database of incidence of diabetes and associated complications
- Presentations of Sugarman project made to Rotary Club of Port Moresby (23.02.2010), Rotary Club of Boroko (25.02.2010) and the Rotary Club of Brighton (18.03.2010)

Helen Grodski and Dr David Grodski flank Dr Janine Rowse after her presentation to the Rotary Club of Brighton in March. Dr Sarah Cash was unable to be at the meeting as she had already returned to her hospital work in Adelaide.

