TONGA DENTAL HEALTH PROJECT

First report; (Needs Assessment.)
ST. JOHN OF GOD HOSPITAL, BALLARAT / VIAOLA HOSPITAL, TONGA / BALLARAT WEST ROTARY CLUB / NUKU’ALOFA ROTARY CLUB

REPORT ON A VISIT IN OCTOBER 1996

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TONGA – KEY FACTS

Tonga - An independent Polynesian monarchy south-east of Fiji in the Pacific Ocean. Consists of more than 150 islands forming three main groups - Tongatapu, Ha'apai and Vava'u, with a total area of 748 sq. km.

Land - Generally the eastern islands are low-lying, coral formations, while the western islands are volcanic and mountainous. Tongatapu is the largest and most fertile island and like the other main islands is covered with luxuriant vegetation, notably palm trees. The climate is mild, with an average annual temperature of approx. 23.9 C. and more than 1905 mm of rain annually.

Population - 1991 estimate of 103 000. Density of 138 people per sq km. Approximately 70 % of the population lives in the Tongatapu group.

Capital - Nuku'alofa, located on Tongatapu with a population estimate of 21 400 (1986).

Language - Tongan (English as a second language).

Economy and Government - Commercial produce consists of pumpkin, banana, coconut, vanilla and root crops. Small scale industry including tourism and remittances from Tongan citizens working overseas are also important to the Tongan economy. An international airport is located near Nuku'alofa. The national currency is the pa'anga, which is divided into 100 seniti (1 Pa'anga approx. = $1 Aust.). Tonga is a hereditary monarchy governed by a king and a legislative assembly made up of
members of cabinet, elected representatives of the people and nobles elected by their own peers.

**TONGA DENTAL HEALTH PROGRAM - OCTOBER 1996**

**Introduction**

The St. John of God Hospital, Ballarat, Australia - Vaiola Hospital, Nuku'alofa, Tonga "twinning" program was established in 1993 and has been closely supported and monitored by the Ballarat West and Nuku'alofa Rotary clubs. Members of the Tongan and Australian Government, together with key medical service representatives, identified the need to develop a plan to improve medical services within Vaiola, its affiliated hospitals and clinics. The aim of the program overall is to teach and assist but not to do, with the desire to support Tongans in self-development of their health care system. To date this has occurred by way of staff exchange and education, and development and maintenance of resources and equipment. An across the board approach has been taken including medical and non-medical fields of expertise.

Until October 1996, however, the only input into the Vaiola Hospital dental clinic has been the placement of Ms. Nenase Latu, a dental assistant from Vaiola hospital, with Mr. Peter Copp, a dental equipment repair technician based in Melbourne. Peter provided three months work experience within his field, upon which Nenase returned to Vaiola. The exchange was funded through the twinning program and the World Health Organisation. Following this, the seed was planted for further investigation and development of the dental department at Vaiola and its affiliated dental clinics. Hence, a five member team recently visited Tonga on a two week field trip to undertake an assessment of the country's dental facilities, resources, operations and requirements. The following is a summary of the trip, its findings and recommendations.

**Purpose**

* To make contacts and foster positive relationships with relevant people and their associates from the Tongan dental community, hospital, government and aid agencies.
* To undertake a basic needs assessment of dental services and identify potential areas in which the twinning program and Rotary may collaborate and extend in the future.

**Team members**

Dr. David Goldsmith - B.D.S. (Dunelm) L.D.S. R.C.S. (England) - Team Leader
Dr. Rudy Jansen - B.D.S. (Adelaide)
Mr. Bill Davies - Advanced Dental Technician (R.D.H. Melbourne)
Mr. Peter Copp - Dental Equipment Repair Technician
Miss Kylie Blake - Dip. App.Sc.- Dental Therapy (Melbourne)
Grad.Dip.Health Science (Ballarat)

**Itinerary**

Vaiola Hospital, Nuku'alofa, Tongatapu - 8 days
Niu'ui Hospital, Hihifo, Ha'apai - 2 days
Prince Wellington Ngu Hospital, Neiafu, Vava'u - 2 days

**Overview of existing dental facilities**
Statistical data relating to the operations of dental clinics and services within Tonga is not readily available, therefore assessment of the facilities was largely done by observation, consultation and provision of anecdotal evidence.

Vaiola Hospital - Nuku'alofa, Tongatapu

At the time of the visit the dental clinic was staffed by a Chief Dental Officer (acting whilst the department head was on extended leave), 2 Dental Officers (another was on leave), the School Dental Officer, 3 Dental Therapists, 1 Dental Technician (1 other on leave), 9 Dental Assistants (some of whom were in training) and 1 receptionist. For those interested post-graduate staff training and personal development is virtually non-existent on all levels and there is little access to current oral health information and trends in treatment options. For staff the new day brings uncertainty in most areas - How many patients will attend with toothache? Will the equipment break down today? Will materials run out? How can we provide the best care with such limited resources? Nevertheless, through such stresses, constraints and hindrances, staff manages to provide a valuable service to the community that is clearly required. Each day a constant stream of up to sixty patients attend for emergency and general dental care and each day they receive this care.

The actual dental clinic comprises reception area and records office, manager’s office, staffroom, single chair surgery, four chair examination/extraction surgery, two chair conservative surgery, sterilising room and dental laboratory. Structure of the building appears to be sound, however the interior has had little if any refurbishment since being built over twenty years ago. Electricity and water supply are connected but difficulties can occur with quality and reliability. Overall the dental department relies heavily on outside assistance for equipment and materials. Dental chairs, sterilisers, suction and other such essential items are generally antiquated, in poor condition, non-operable, or simply non-existent. They differ enormously in manufacturer, type, age and usefulness. Dental materials and general consumables are constantly in short supply, if available at all. They too vary vastly in quality, type, user technique and suitability.

The general condition and operation of the department in terms of cleanliness was well below a level that should be considered adequate. There appeared to be no formal infection control guidelines or procedures to follow and available techniques, equipment and materials employed for these purposes were rudimentary or nonexistent. Opportunities, then, for cross infection of diseases such as HIV and hepatitis were numerous should they already exist within the staff and patient population.

Preventive dentistry did not play an obvious role in the operation of dental services provided at the Vaiola clinic. Lack of resources in all areas means staff are limited to providing temporary pain relief and in most instances there is little scope to expand or use their full range of skills. Dental treatment needs appear to be high for all age groups so what valuable resources are available rapidly become exhausted. A school dental program does operate, but only on a sporadic basis. The current staff, equipment and materials available for this mainly preventive service are insufficient and inappropriate to the conditions to hope for a noticeable reduction in oral treatment needs.
Dental clinics within both hospitals are staffed by one dentist, one dental therapist and a dental assistant. Both comprise a two chair surgery and laboratory with all other functions, (administrative, sterilising and the like) being confined to this area. Basic similarities occur across the board between the Vaiola dental clinic and those of the outer island hospitals. Problem situations and difficulties are, however, further exacerbated due to isolation and decreased accessibility. Noted differences included reduced patient flow where an estimated five and twenty patients attended per day at Niu'ui and Prince Wellington Ngu respectively. Outer islands are also serviced by boat as regularly as possible and this leads to valuable staff and equipment being away from the main clinic. Problems with general cleanliness in the Niu'ui dental clinic were not as evident, but more obvious at Prince Wellington Ngu. Generally the improvement of many situations within both clinics appeared to be a less daunting task than at Vaiola because of the reduced size and output of the services. This, however, does not diminish the need or importance for such improvements but merely keeps them relative to the environment.

Overall the Vaiola, Niu'ui and Prince Wellington Ngu Hospital Dental Clinics do have the foundations to build upon and it did seem that staff would favour any endeavours to do so. A very valuable service is provided to the whole community at little or no cost and is done so under extremely difficult conditions. Most of the community is in need of dental care at some time in their lives and the Tongan dental staff will attend to this need as promptly and efficiently as possible. An overview of the facilities reveals that, if provided with more support in some areas, vast improvement could be made in the environment for staff and the community. We have chosen to emphasise the following areas as most important: 1) infection control and general cleanliness; 2) maintenance and supply of equipment; 3) material shortages and availability; 4) preventive services and 5) staff training and development.

1) INFECTION CONTROL AND GENERAL CLEANLINESS

Contributing factors
- Budget and time constraints
- Availability and access to sterilising and cleaning equipment and materials.
- Knowledge and attitudes of cross-infection and the importance of sterilising and cleaning procedures.

Recommendations

Priority - Enlist the services of an infection control expert to advise on the most appropriate cleaning methods for Tongan conditions.

Long term -
- Acquisition of the necessary equipment and materials for suitable infection control.
- Develop a workplace infection control policy and basic guidelines to be followed per patient, per day, per week.
- Undertake a training program for all dental staff.
- Make adequate time available for cleaning, disinfecting, sterilising procedures.
- Nominate an infection control representative to monitor and assist with procedures.
Communication of updated information.
Ensure availability of hepatitis vaccinations to all staff.

2) MAINTENANCE AND SUPPLY OF EQUIPMENT

Contributing factors
- Varied sources of equipment, both purchased and donated, leading to incompatibility.
- Knowledge of repair, maintenance and spare parts requirements.
- Availability of advice, spare parts, tradespeople, money.
- Attitude that "someone else will fix it" or "it's not my job".
- Insufficient supplier back-up and service.

Recommendations

Priorities - Attainment of urgently required equipment, through donation where possible.
- To create an advisory service whereby when equipment is being purchased or donated, the goal is to get the most appropriate item available. Over time equipment should then become: simple in use and maintenance; self-contained and portable; inexpensive; and as far as possible, interchangeable between surgeries.

Long term:
- Develop basic maintenance guidelines to be adhered to daily, weekly, monthly.
- Undertake a training program in maintenance and repair.
- Make time available for maintenance procedures.
- Nominate a maintenance representative to monitor and assist with necessary procedures.
- Establish some mechanism whereby equipment can be serviced annually and access to a competent repair person is possible.

3) MATERIAL SHORTAGES AND AVAILABILITY

Contributing factors
- Budget constraints.
- Ordering system and time to import materials, further exacerbated for the outer islands where supplies then come through Nuku'alofa.
- Inadequate storage systems.
- Knowledge of materials available and those most appropriate for local conditions.
- No basic stores list of materials used and quantities regularly required.

Recommendations

Priority - Investigate the current ordering system and where and how the materials budget is spent.

Long term:
- Clear out all storage areas to establish what is actually there and what is superfluous.
- Develop a stores list incorporating the most appropriate and standardised material available.
- Identify cost saving measures.
- Identify ways of obtaining essential and most used items when budget has been exhausted.
4) PREVENTIVE SERVICES

Contributing factors
- Supply of inadequate equipment and materials for the school dental fissure sealant program, the only existing prevention program.
- Constraints with budget, staff, time, materials.
- Knowledge, attitudes and skills of staff in education and promotion of prevention techniques.

Recommendations

Priority - To gain greater benefit from the existing fissure sealant program by identifying and attaining more appropriate equipment and materials for Tongans conditions.

Long term recommendations would include:
- Identify ways in which preventive messages may be conveyed successfully with a minimum of cost and time.
- Investigation of water supplies and possibilities in regard to fluoride supplementation.
- Investigate possibilities of incorporating preventive messages and activities in existing education systems.
- Attainment of essential preventive equipment for use within surgeries.
- Work toward a service that provides a more complete course of care for the patient and not just pain relief.

5) STAFF TRAINING AND DEVELOPMENT

Contributing factors
- Budget constraints.
- Lack of training and development facilities/facilitators.
- Isolation from major players within the oral health field.
- Staff shortages exacerbated if training and/or development take place.
- Insufficient support, encouragement and leadership in the area of development at each level of staffing structure.
- Career ladder and job specifications ill-defined, unclear or non-existent.

Recommendations

Priority - To create avenues for staff training and development on all levels.

To be achieved by ongoing:
- Personnel exchange from all disciplines within the dental service.
- Training then provided by these personnel.
- Regular communication of information covering a variety of areas clinically, personally, administratively.
- Development of a career ladder based on competency levels in different areas.

CONCLUSION
Overall the indispensable recommendation from this assessment is to begin an ongoing long term Dental Health Program between Tonga and Australia. The program needs to make a firm and positive beginning and continue with regular exchange. The endeavour will be to enhance the St. John of God/Vaiola "twinning program" and boost the strong ties previously made through the program and recent field-trip. Priorities exist in the areas of:

1) Infection control and general cleanliness – Enlist the services of an infection control expert to advise on the most appropriate cleaning methods for Tongan conditions.
2) Maintenance and supply of equipment – Attainment of urgently required equipment, through donation where possible; To create an advisory service whereby when equipment is being purchased or donated, the goal is to get the most appropriate item available.
3) Material shortages and availability – Investigate the current ordering system and where and how the materials budget is spent.
4) Preventive services – To gain greater benefit from the existing fissure sealant program by identifying and attaining more appropriate equipment and materials for Tongan conditions.
5) Staff training and development – To create avenues for staff training and development on all levels.

Budget constraints mean the program will focus on obtaining the most effective results from existing facilities and functions. Additional sponsorship is essential in training and assisting personnel to reach a level of competency that will allow them to actively partake in planning, implementation and evaluation of program recommendations. It is hoped that with this eventually a more sustainable dental service will emerge. One that exists and relies more on itself than others and retains the unique and friendly charm of the Tongan culture.

ACKNOWLEDGMENTS

All members of the team would like to acknowledge the valuable assistance received from all people involved in our trip to Tonga. Specifically we wish to thank Dr. Moi Tapealava, Chief Dental Officer, for inviting us and making the initial arrangements for our visit, and meeting with and encouraging us even whilst on leave. Thank-you to Dr. Villiami Latu, Acting Chief Dental Officer, who showed us complete cooperation-operation and support throughout our stay, and thanks to Dr. Salise Faivailo and Dr. Sililo Tomiki from the outer island groups for doing likewise. The entire staff at all dental departments deserve our heartfelt thanks too for the friendliness and generous hospitality that you showered upon us. It certainly made the stay an extremely pleasurable and memorable one.

Thank you to management from both St. John of God and Vaiola hospitals for your support and cooperation. Also the Rotary clubs of Ballarat West and Nuku'alofa. The support that was provided financially, with accommodation, transport and personally was invaluable and we really cannot thank you enough.