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Partnerships for health: decimating tuberculosis in the Cook Islands, 1920-1975

Abstract:

How did the Cook Islands manage to achieve a significant reduction in tuberculosis from a high rate in the early twentieth century to low rates by 1975? With the mid-century invention of effective drug therapy there was a widespread belief around the Western world that TB could be eradicated. The Cook Islands was one place which almost reached this goal. Based on primary and secondary historical and anthropological research, we argue that the geo-political emplacement of the Cook Islands and development of multi-scale partnerships were crucial to success. Our research indicates the value of understanding and engaging with local community networks and culturally appropriate partnerships in dealing with health issues. (109 words)

Keywords

Partnership; health promotion; Pacific-- Cook Islands; tuberculosis; history

What lessons for health promotion can be learned from a small island state in the Pacific? We address this question specifically in relation to tuberculosis (TB), asking how the Cook Islands managed to achieve a significant reduction in this disease from a relatively high rate in the early twentieth century, especially in light of continuing high rates in some neighbouring Pacific nations (World Health Organization [WHO] 2010).[1]

Since the development of anti-TB drugs in the 1950s the eradication of TB has been an elusive hope (Bryder, Condrau & Worboys 2010). The Cook Islands was one place where this hope was almost realised with zero to two notifications each year for several recent decades (WHO 2010).[2] We argue that the specific geo-political location of the Cook Islands and the consequent development of partnerships that included and intermixed personal, local, regional and international scales were central to the successful reduction of TB.

This is primarily an historical study of measures taken to combat TB in the Cook Islands although it also draws on ethnographic approaches employed in anthropology. Viewing TB through both historical and anthropological lenses has produced a study which investigates the impact of cultural beliefs, human relationships and their impact on TB interventions in the Cook Islands.

Following its annexation by New Zealand from Great Britain in 1901, the Cook Islands medical service was a branch of New Zealand's colonial administration with all medical officers appointed in Wellington but responsible to the local Resident Commissioner, until independence

[1] While Tonga and Samoa have similarly low rates, Tuvalu and Kiribati's rates are 20 and 30 times higher (WHO 2010).

[2] In a population with high historical rates of TB, the conversion from latent infection to active TB in the elderly is a continuing challenge.

in 1965. After independence, in Free Association with New Zealand, the relationship between the two countries and the medical services remained close. Our focus is on the period from 1920s until 1975, which is when TB rates conclusively declined. Our research into the lessons of history indicates the particular value for health authorities of understanding and mobilising local community relationships and networks and developing culturally appropriate partnerships when dealing with health issues.

Partnership and scale

'Partnership' may refer to a range of organisational practices and power relations. Types of partnership are culturally and situationally specific. They are dynamic and encompass mutually agreed objectives, a sense of mutual responsibility, engage shared understandings, and make use of the different but complementary resources of each partner (Brinkerhoff 2002; VicHealth 2011). Scholars have identified different qualities of partnerships. Current definitions that include open decision-making, mutual accountability and transparency (Buse & Harmer 2007) — ideal characteristics in a neo-liberal polity — are not necessarily applicable to partnerships in colonial times or in contemporary small island states (Goldsmith 2005), where kinship and descent are major organising principles, and values of respect, obedience and care are dominant. Partnership is not often a word used to describe relationships between colonised and coloniser. However, it was just such a partnership which led to the dramatic reduction in TB rates in the Cook Islands. The effectiveness of colonial partnerships in the Cook Islands depended on the quality of the personal relationships involved, whether they were between western-trained and local healers, Cook Islands health professionals and their counterparts in New Zealand, or a locally-trained health assistant and her kin group. As Campbell, Cornish and Skovdal (2012)

have convincingly argued, particular spaces may be both global and local, and global-local networks may be characterised by disconnection and connection. The concept of 'scale' is best understood not as hierarchy or ladders but in terms of Latourian processes, which construct networks via the power-saturated engagement of diverse groupings. The Cook Islands during the period of interest provides many examples of scalar partnerships which contributed to desirable health outcomes there.

The Cook Islands

The Cook Islands fall into two groups, northern and southern, spread over 2.2 million square kilometres of the South Pacific Ocean. All of the islands lie in tropical latitudes, between 9 and 23 degrees south of the equator, with Rarotonga being the largest island and the site of the capital, Avarua. The huge distances between the northern and southern islands create many difficulties in transport and communication, with implications for running a successful health service. Despite multiple methods of communication now linking these Polynesian islands, inter-island transport remains an issue, yet indigenous Cook Islanders are intensely mobile and have been for centuries. The population grew steadily from around 8,500 in 1915 to 12,000 in the 1930s (Lambert 1934). It peaked in the 1971 census at 21,323, just before air travel became widely available.[3] Figure 1 shows the population estimates over the period in question.

[Insert Figure 1 here]

Historically, TB had a significant presence in the Cook Islands: the general hospital is still today called 'the san' (sanatorium) by some older people, and the road to the hospital called

[3] The current population of Rarotonga is approximately 13,000 with a total of approximately 19,000 in the whole group. However, only about 13,000 are resident (Stats.gov.ck\curreleases\popnestvital\popestq.pdf 2012).

Sanatorium Road. Although it is not known exactly when TB was first encountered by Cook Islanders, scholars agree that it was most likely introduced by European visitors to the islands in the late 18th or early 19th century (Miles 1997).[4] Historian Raeburn Lange noted that in 1835, only 14 years after their arrival, missionaries recorded the deaths of four people from 'consumption', as TB was known at the time. By the end of the nineteenth century TB was a major cause of morbidity and death in the Cooks (Lange 1982). Patients with chronic pulmonary TB, with cough, fever, loss of energy and weight, and bleeding from the lungs, became common among Cook Islanders with the country losing many people to what was known locally as *maki maro*, a disease that withered or dried up its victims.

The scale of the TB problem in the Cook Islands would not be reliably measured until scientific procedures were developed towards the middle of the 20th century. There are gaps in the data due to an inability to find records for some years or trying to extrapolate from a variety of sources. However, early foreign observers noted that the disease was widespread (Gilson 1980:20). By 1926 (see Table 1) TB accounted for 39.5 per cent of Rarotongan deaths (Lange 1982). Some observers thought it was declining by the 1930s, but in 1936 it was reported that the 'scourge of the island [Rarotonga]' (TB) was still a major contributor to mortality, responsible for a death rate of 3.6 per thousand (Lange 1982, p.313). It is difficult to get comparable rates from elsewhere in the Pacific, although Tarawa (Gilbert Islands) had an estimated TB death rate of 1.7

[4] See also South Pacific Commission Research Council, First meeting, Research programme, Report of the Health Committee, R.C.1/Com.H/1/Rev.1, Appendix IV, 3 May 1949, CI 6/1/1.

per thousand in 1930, and 2.6 per thousand in 1949.[5] The Cook Islands rate is comparable to the 1936 estimated New Zealand Maori TB death rate of 4 per thousand (Finn 2006).[6]

Table 1. Tuberculosis mortality on Rarotonga from 1926 – 1981. (Extrapolated from Annual Reports, Ministry of Health records, and Cook Island Censuses from the Cook Islands Archives.)

	Population estimates		TB Deaths	Total Deaths	% of deaths	Death Rate per 1,000
Year	Rarotonga	Total	Rarotonga	Rarotonga	%	Rarotonga
1926	3936	9801	36	90	39.5	9.5
1936	5054	11943				3.6
1945	5573	13574				
1947			38			6.8
1951	6048	-	36			
1952	6019	-	27	90	30	4.5
1956	7212	16680	20	97	20.6	2.8
1961	8676	18378	9	43	20.9	1.0
1966	9971	19247				<1.0
1971	11478	21323				<1.0
1976	9802	18128	0			0.0
1981	9530	17754	0			0.0

Before the advent of chemotherapy, immunisation and improved techniques for detecting early TB in the 1950s, the standard treatment for TB in most countries was in institutions which provided patients with rest, food and exercise. The emphasis in prevention was based on instilling good habits in eating, sleeping and exercise (Bryder 1988). As it was an introduced disease there was no accepted indigenous remedy for the affliction in the Cooks. Few resources were available for TB treatment and prevention and yet, as will be argued, the partnerships

[5] Death records and 1949 population from compiled annual reports from the Medical Department, Gilbert and Ellice Islands Colony 1916–1975, from the Western Pacific Archives, University of Auckland library. Population for 1930 from Gilbert and Ellice Islands Census returns.

[6] Reliable estimates of TB mortality, the only method of estimating prevalence, are not available until the 1920s.

which evolved between health professionals and local communities meant that when new methods became available in the 1950s, locals were well positioned to take advantage of them.

A range of partnerships

The partnerships actively developed by the Cook Islands medical personnel, in their efforts to quell TB, included local and island-level, regional and international, and with civil society and government organisations. Within the broad rubric of partnership current scholarship has described a continuum of intensity from networking to full collaboration (VicHealth 2011). Although the relationships we describe were not often named as partnerships at the time, they share some of the same qualities and purposes and the same variation in intensity from the exchange of information to coordination, cooperation and, ultimately, full collaboration and this is explored in the following examples of partnerships in action.

The colonial relationship of New Zealand to the Cook Islands, from a Cook Island perspective, was at times negative, with the former adopting bureaucratic, paternalistic and even domineering approaches. Nevertheless, this colonial relationship along with the work of international — such as the Rockefeller Foundation and the WHO — and regional — such as the South Pacific Commission (SPC) — organisations underpinned successful medical intervention in the Cook Islands with regards to TB. The history of TB control in the Cook Islands represents a diverse scale of local-global networks.

Regional Partnerships in Training for Local Medical Practitioners

One of the early results of international relationships was the advent of training for local health practitioners. Following his influential visit to the Cook Islands in 1925–26, Sylvester M. Lambert – an American doctor who directed the Rockefeller Foundation's health programme in

the Pacific – suggested that local doctors be trained at the Central Medical School in Suva, Fiji.[7] Lambert firmly believed that the answer for many Pacific Island medical problems would be solved by training indigenous people in western bio-medical practices. It was the intention that medical practitioners would be professionally above native nurses or dressers but without the full qualifications or privileges of the Colonial Service Medical Officers (Lambert 1923). Although their positioning reflected and reinforced the existing colonial status hierarchy, the idea was perceived at the time as controversial. Many colonial officials in the Pacific had rejected the idea of natives being educated to the requisite level and being allowed to assume professional medical responsibilities. Yet it was looked on favourably by the Resident Commissioner of the Cook Islands, Dr. Hugh Ayson, the Cook Island Chief Medical Officer, Dr. Edward Ellison, Dr. Maui Pomare, the New Zealand Minister of Health and Apriana Ngata, the New Zealand Minister of Native Affairs.

The first two Cook Island candidates, Takao Tinirau and Tau Cowan, were trained in Fiji beginning in 1929, and returned to the Cook Islands in 1931 as the first Native Medical Practitioners (NMPs) (Gilson 1980; Lange 1982).[8] Tau Cowan gave the Cook Islands 40 years of service, retiring in 1972 when he was honoured by the Legislative Assembly of the Cook Islands as 'the first to work in the service of his people for this length of time'.[9] Eventually many Cook Islanders followed in their footsteps and provided the Cook Island medical service with well-trained local doctors. However, within the Cook Islands there was much discontent that these candidates were sent to Fiji and not to New Zealand for training. The discontent was twofold

[7] Now the Fiji School of Medicine.

[8] Native Medical Practitioners were renamed Assistant Medical Practitioners around 1947 and then Cook Islands Medical Practitioners about 1949. Later they became Assistant Medical Officers, and ever since 1966 they have been known as Doctor (Lange 1982).

[9] Legislative Assembly of the Cook Islands, Official Report, 1972, Report on the Health Department, Cook Islands Parliament, Rarotonga.

given that the services in the Cooks were based on the New Zealand model and the insinuation that the training of natives was less than that of Europeans (Futter-Puati 2010).

Partnerships of the 1930s and 1940s

Although acknowledging the need for a dedicated sanatorium in the Cook Islands the New Zealand administration dragged its heels in financing its construction. The sanatorium was finally built at the end of World War II. However, before this local medical staff addressed the TB problem through means that were accessible and affordable. They enlisted the cooperation of the community in trying to prevent and treat TB, including using 'open-air' treatment, i.e., placing TB patients on the veranda of the local public hospital and building 'native structure huts' for patients in the vicinity of, but away from, the main family home, just like the ones that were being used for Maori TB patients in New Zealand (Turbott and NZ Dept. of Health 1935; Finn 2007; Futter-Puati 2010, p.31). Local doctors went into the community to treat patients in their own homes. There was a recognition that successful TB prevention and treatment needed to go beyond the bounds of the hospital and that the health services must engage with local lifeways by building lasting relationships.

This community focus had characterised other health programmes in the Cook Islands. Sanitation committees, with the backing of Island Councils, looked after public health and indigenous *Au Vaine* (Women's Committees), which had begun in 1926, provided leadership in good husbandry and housekeeping, visiting plantations and homes (Scott 1991; Lange 1982). This was a formalisation, initiated by Dr Edward Pohau Ellison (Otago-trained, New Zealand Maori doctor and Chief Medical Officer at the time), of the existing responsibilities of women elders within the community. *Au Vaine's* policy of reducing the reliance on canned and other

imported foods in favour of home grown crops resulted in increased plantings, and hence improved nutrition, which was linked to TB resilience.

The annual *tutaka* was a regular round of village inspections undertaken by the Resident Commissioner, Medical Officer, local leaders and women's committees in each district on Rarotonga during December (and by the New Zealand Resident Agent on the Outer Islands). As Lange also notes, *tutaka* – begun by missionaries in the nineteenth century – by the 1930s were designed as a public health measure to improve living conditions, focussing especially on impeding flies, mosquitoes, intestinal parasites and micro-organisms of gastroenteritis that flourished in dirt and refuse disposal (Lange 1982, 1988). Having such a powerful group of people working together gives an example of how partnership approaches to health were in place by the 1930s. As a committee, the *tutaka* was a cooperative alliance of both indigenous and colonial authoritative figures with the shared goals of creating hygienic villages and dwellings. In relation to the other villagers, the committee was an indigenous elite group that would demand compliance. The *tutaka* was, and still is, a very public display of 'healthiness' as propagated by medical ideas. Everyone is aware of the expected outcomes of a *tutaka* and in a small community it becomes everyone's business if there is a home in the village that does not meet the standard. Everyone's business could perhaps be seen as supportive if the extended family helped to bring a property, or family's health, up to standard. Conversely, the competitive spirit of the inspections could have put extra pressure on families who found it difficult to conform. Both the *tutaka* and *Au Vaine* continue to operate.[10]

[10] In 1967 the *Au Vaine* evolved into the Cook Islands National Council of Women and the *tutaka* continues several times a year.

In 1931 Dr Ellison was re-appointed Chief Health Officer to the Cook Islands, a position he held for the next fourteen years (Scholefield 1940).[11] As well as supporting the *Au Vaine,* Ellison helped establish baby and child welfare clinics throughout the country. These were based on the highly successful New Zealand Plunket Society which was run by local groups of women volunteers (Bryder 2003). By contrast, in the Cook Islands, they were introduced by the Department of Health. The clinics focussed on women and children's health and nutrition, and gave advice to families and became (and continue to be) a connection point for medical intervention. The child welfare clinics, alongside the *Au Vaine*, had their 'finger on the pulse' of almost all families in their respective villages, and this enabled education and support in screening and monitoring families for wellness as well as illness. They were therefore efficient monitors of those with TB in the community. The Department of Health initiated or supported these civil society organisations and worked side-by-side with them, to achieve common health and social goals for the whole community. While these proved to be effective relationships, they could also be construed as cooption or indoctrination. However, the records suggest that what today might appear to have been authoritarian relationships were interpreted as partnerships of care by those affected. We take this to indicate that partnership in the Cook Islands, in accordance with local values, could consist of advice and compliance or rules and obedience rather than egalitarian power sharing. This mirrored indigenous notions of absolute obedience to those superior in rank. It was based on differentiated roles and responsibilities.

Moving towards collaboration

[11] Ellison had previously been CMO from May 1926 – June 1927.

The first Cook Island doctor trained in New Zealand, Dr T.R.A. (Tom) Davis, was appointed as Assistant Medical Officer (AMO) in 1945, and then Chief Medical Officer, a position he held until 1951. Dr. Tom, as he was affectionately known, was a strong-minded individual who embraced Western bio-medical practices which he used to initiate changes in the standard and implementation of care for 'his' people. Developing the work of his predecessor Dr Ellison, Dr Davis established other grass roots support for medical purposes moving towards an even closer engagement with local communities and local healers, characterised by mutuality. It is hard to overestimate the love and esteem Cook Islanders had for Dr. Tom whose autobiography, *Island Boy* (Davis 1992), relates the challenges and prejudices he faced in achieving his goals. Davis was elected Prime Minister of the Cook Islands in 1978. Davis's philosophy of having Cook Islanders taking more responsibility for their health led to the development in each village on every island of a 'Committee of Health', which he thought would bridge the gap between the colonial Health Department and the community (Davis & Davis 1955). His rationale was that he wanted local people to be able to have more voice in their health needs and he needed a vehicle to create more understanding in the community for why interventions were necessary. These committees also allowed for a sense of ownership of health issues, and became a medium for locals to understand for themselves some of the Health Department's interventions. Davis felt that local people had been deprived of responsibility for their own affairs and, as this dependency had become normalised, they had become reticent—with this being misinterpreted by expatriate staff as ignorance (Davis & Davis 1955).

The Committees of Health made many interventions, of which TB education was one. Dr Tom claimed that TB accounted for almost forty percent of annual deaths (Davis & Davis 1955). Davis described that after he explained to the committees how TB was spread and asked for

everyone's cooperation to lessen the death toll, there was an almost immediate response. The information filtered back to their village communities with families soon presenting themselves for examination and seeking X-rays to see if they had any TB disease. This led to support for the sanatorium, which opened in 1945 after an almost twenty year battle by Ellison (and others) to convince the New Zealand Department of Health and the New Zealand Department of Island Territories of its urgency.

One of Davis's goals was to encourage local people to enter the TB sanatorium, as they were at first reluctant. Davis knew the objection was based on the belief, which he understood from growing up there, that souls departed for the afterlife from the area where the sanatorium had been built. They held very real fears that the sanatorium was a place one went to die and that it harboured spirits. Davis assured them that evil spirits could not access tapu (sacred) grounds, such as those of the sanatorium, and used a co-operative patient to lead the way.[12] The patient happened to be Geoffrey Henry, the father of Albert Henry who would be the first Premier to the Cook Islands, and Davis's predecessor as Prime Minister.[13] This intervention, using a person held in high esteem in the community, led to the sanatorium operating fully within a short time and it quickly became too small to deal with the number of patients, leading to the addition of temporary shelters.

Davis realised the importance of working within local structures and with local faces. The 'face' of the Cook Islands anti-TB campaign under Davis was always that of a Cook Islander's, mainly that of Dr Manea Tamarua, and his wife Pari Tamarua who was a TB nurse. While provision had

[12] Watt-Davis, 27 March 1946, Cook Islands Health Services – General, 1945, H 333/12, Archives New Zealand (ANZ). See also Lange, 1982. p.318.

[13] The first elections under self-government were held in 1965. Davis returned to the Cook Islands in 1972 to form the Democratic Party and became Prime Minister in 1978.

been made for training local nurses from 1917, Davis felt that the nursing service was still too reliant on imported European staff and in the 1940s he set about training twenty-five Cook Islands student nurses, with a Cook Islands-designed curriculum, thus creating many more Cook Island 'faces' at the forefront in the fight against TB (Davis & Davis 1955, p.221; Lange 1988, p.67).

Davis also developed a plan to enlist the support of the *ta'unga,* indigenous healers, as he felt they 'were an invaluable liaison between my [his] medicine and the public' (Lange 1988, p.374). Ta'unga had always treated Cook Islanders for various illnesses, and still do to this day, although some Western doctors, before Davis, had misunderstood their role in the community. With only one, or at times two, Western doctors for the whole country, locals continued to rely on their indigenous medicine and healers. In fact Western doctors often asked patients to continue both their Western and traditional medicines while being treated for TB.[14] Davis's respect for the *ta'unga* was reciprocated as they shared information about their different ways of healing, and slowly the *ta'unga* began to support his Western medical ideas, often returning to their villages and repeating his lessons (Davis & Davis 1955). Davis felt this mutual respect helped him to break down the fear of both the sanatorium and autopsies (which he considered important to determine cause of death) and, in addition, engendered a feeling of confidence in the medical doctors. He controversially referred psychological and psychiatric patients to *ta'unga*, as he felt they managed them well — better than the Western-trained doctors (Davis & Davis 1955; Lange 1982; Baddeley 1995).[15] It could be surmised that as a Cook Islander, Davis knew that *ta'unga* held a culturally significant place in the community and that they were often the first port of call

[14] Interviews by Futter-Puati with T. Herman, Koteka, Maoate, Rarotonga, 2009.

[15] Baddeley (1995) states that psychosomatic illness was still predominately treated by *ta'unga* in 1975.

for local people with a medical problem. This alliance created a further effective mode of health promotion and illness prevention and treatment.

The period with Dr Tom at the helm (1945–51) saw the establishment of the foundations for the anti-TB campaign that was to follow. The potential for a network of dedicated people with effective leadership and cultural understanding to shape the medical progress of a small nation is well illustrated. Medical services were considerably more professional than when Davis had arrived.[16] He managed to coordinate the service to a point where it gained public confidence, raised expectations about the level of the services and provided support to the local staff, using himself as a role model. By championing the NMPs and working alongside grassroots organisations such as the Committees of Health, Davis raised the status of the Cook Island medical staff. The culturally accepted and well-established *ta'unga* were recognised and he also challenged the Administration to achieve better results for local people. His medical expertise, in combination with his ability to bring the community and colonial administration alongside, enabled him to make some significant improvements to the medical service while he also put into place a proposal for a comprehensive anti-TB campaign. At times Dr. Tom pushed boundaries with the New Zealand colonial administration requesting medicine and equipment that had not been sought before.

Partnerships of the 1950s

During the 1950s, TB was being countered globally by increasing confidence in technical and therapeutic advances. New tools such as chemotherapy, vaccinations of Bacillus Calmette-Guerin (BCG), and Mass Miniature Radiography X-rays (MMR) were regarded as the key

[16] Interviews by Futter-Puati with T. Herman, N. Herman, Tutakiau, Maeva Taripo, Rarotonga, 2009.

technologies and, from 1955, the Cook Islands undertook an all-encompassing assault against TB using every available tool.

As can be seen in Table 1, the numbers of deaths from TB in Rarotonga were considerable at this time and demonstrate that the disease that was, according to the New Zealand administration, of the 'most importance to address in the Cook Islands'.[17] Yet, it took a good deal of persuasion by the Cook Islands health authorities to enlist the assistance of New Zealand in their anti-TB campaign.[18]

By 1955 New Zealand assistance in the form of finance, personnel and technology was forthcoming. This enabled the Cook Islands medical service to develop their campaign using the lessons from New Zealand and further afield. The implementation team included New Zealand medical and technical personnel, New Zealand- and Fiji-trained doctors stationed in the Cook Islands, and local nurses and technicians. The complexities created by Cook Islands geography entailed designing a portable MMR unit to take across the reefs of the 14 outer islands: 'light weight equipment that could be broken down to single components and weighing no more than 200lbs, packed in water proof boxes for easy transport' and able to float should they be lost overboard when off loading.[19] In addition, the New Zealand Health Department, leading the onslaught, prioritized the further training of local medical personnel in anti-TB measures and considered it important that systems were put in place. It was also recognised that the social conditions on the islands needed to improve, especially in the area of housing (Futter-Puati, 2010).

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[17] Appendix to the Journal of the House of Representatives (AJHR), 1953, pp.38, 40.

[18] See correspondence between Romans and Turbott, Wogan and Romans, 1954, South Pacific Board of Health, H333\13, ANZ.

[19] Wogan, Report on the Medical Services of the Cook Group of Islands, 20 August 1954, Cook Islands Tuberculosis 1949-57, IT 90/10/7, ANZ.

While New Zealand remained influential during the 1950s while the anti-TB campaign was in full swing, the focus of the colonial administration shifted to preparing the country for independence and it began to redefine how it administered the Cook Islands. The Minister of Island Territories, Clifton Webb, stated in May 1954 that he was aware that

> excessive paternalism and bureaucratic efficiency in administration are not everything, and there is a lot to be said for accelerated political development, even at the expense of administrative efficiency (Wilson 1969, p.74).

New Zealand was beginning to recognise the need for Cook Islanders to have more of a role in their own development. New Zealand was also aware of, and their actions were influenced by, the imminent United Nations Declaration on the Granting of Independence to Colonial Countries and Peoples (which was eventually adopted by the General Assembly in 1960) (Wilson 1969). The aim was to have a system of self government in which Cook Islanders could have full management of local affairs while maintaining their close association with New Zealand.

With the approach of independence, the Cook Islands embarked on a comprehensive and pioneering, for the Pacific, anti-TB project modelled on New Zealand's response to TB (Dunsford 2008). This anti-TB campaign laid the foundation for the Cook Islands currently having such a low rate of TB as it set in place practices that were realistic and effective within the challenging physical environment and with the limited resources available, all of which was enhanced by capitalising on existing community partnerships.

Once the ‘full frontal attack on tuberculosis’ was launched it was seen locally and in New Zealand as something to be proud of, with stories beginning to appear in New Zealand newspapers (Figure 2). There seemed to be a sense of optimism in that ‘the enemy’, as TB was seen, could be fought and defeated.[20]

[insert Figure 2 here]

International regional organisations, such as the South Pacific Commission (SPC), examined the Cook Islands’ experience of working with New Zealand to address the TB problem. They evaluated the campaign making particular comment on the level of expertise of the staff involved.[21]

It appears that Cook Islanders were very compliant with taking the medication required for treating TB once chemotherapy became the major focus of the anti-TB campaign from the late 1950s. Perhaps this high level of compliance can be attributed to the relationships established at the different levels of the campaign. The husband and wife team, Dr Manea Tamarua and Mrs Pari Tamarua, was highly influential. Dr Tamarua had served on Mangaia for four years from 1942, and was the first NMP to undertake a Government-sponsored post-graduate training programme specialising in TB at the University of Suva. He returned from Suva in 1951 to be placed in charge at the sanatorium by Dr Tom (Futter-Puati 2010). This husband and wife partnership trained, and cared for, almost everyone who had anything to do with TB for many years. Kathy Koteka, Rai Heather and Ngapoko Tutai Adamson, all nurses at the sanatorium,

[20] Davis - Official Secretary, Rarotonga, 14 December 1951, Cook Islands Tuberculosis 1949-57, IT 90/10/7.
[21] South Pacific Commission, 'Tuberculosis in the Cook Islands’, 5 August 1958, Cook Islands TB 1957-64, IT 90/10/7, ANZ.

described Pari Tamarua as extremely strict and a strong disciplinarian, although Koteka reasoned that this 'taught them to do nursing care very well'.[22]

The ongoing nature of TB treatment meant that medical staff, nurses and patients had time to develop relationships. Drs Maoate, Herman and Koteka – long-serving older doctors interviewed by Futter-Puati in 2009 – attributed positive relationships, and 'the personal touch', to their success as doctors and to the effective eradication of TB from the Cook Islands. Maeva Taripo, whose grandmother was a patient at the sanatorium, was scared of Pari and felt she was hard on the nurses although once she got to know her she began to understand her ways and believed that the 'nurses needed someone strict'. [23] This view was confirmed by interviews with other health workers from the same era who considered that the relationships that district or public health nurses had with their patients were pivotal to patients' successful completion of their TB treatment.[24] Tai Nootai, a TB Officer, said that 'everyone that I have spoken to, nobody refuses' to take their medication, and others also commented that 'people wanted to go home to their families so they always took their medicine'.[25] It seems that although the treatment was lengthy and unpleasant the lure of wellness and going home induced patients to persevere with taking their medication most of the time, facilitated by the close relationships between staff and patients and their tradition of compliance.

During 1962 a 'new tasteless and combined drug called pasinah' was introduced to Rarotonga for home treatment.[26] Pasinah's ingestion could be traced by a urine test. The pasinah urine testing intervention had an authoritarian and public health approach, which seemed to disregard

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22 Interviews by Futter-Puati with Taripo Rarotonga, 2009.
23 Interview by Futter-Puati with Adamson, Koteka, Heather, Rarotonga, 2009.
24 Interviews by Futter-Puati with Maoate, T. Herman, Koteka, Rarotonga, 2009.
25 Interview by Futter-Puati with Nootai, Adamson, Rarotonga, 2009.
26 January monthly report, 1962, Cook Islands Medical, 1961-1964, IT 110/5/1, ANZ.

human rights in that it was imposed on patients (Futter-Puati 2010). However, it seems to have been accepted by the patients, and this was possibly because they could see that it was to everyone's advantage if all patients took their medication.[27] An obedience model, whereby it is accepted that one should obey authorities such as traditional leaders, the church, or some government departments, for your own good and the good of the community, is still present in some circumstances in the Cook Islands (Park and Littleton 2012). The obedience model in relation to TB therefore fitted this cultural norm and unwittingly led to the containment of TB in the Cook Islands.

Partnerships of the 1960s and 1970s

The period of 1960 to 1975 was a significant time for the Cook Islands medical staff to consolidate its TB service and it was also the time when the country went through the process of becoming independent. They could now strengthen what had been new practices with the 1950s anti-TB campaign and cement them into standard practice. Both internal and external surveillance of the TB campaign continued via the relationships the medical service had with universities and the Department of Health in New Zealand, as well as with technical advisors from international regional organisations.

Domiciliary treatment became the focus for treatment and care of patients through the development of a new Public Health Department. With the implementation of domiciliary treatment, district nursing became even more important in conjunction with community partnerships with established organisations such as the antenatal and child welfare clinics. Transport to the Outer Islands was still a major challenge. However, the links and partnerships that the medical service had established with community organisations helped them to be more

[27] Interview by Futter-Puati with Nootai, Rarotonga, 2009.

effective and the number of new TB cases began to drop dramatically from the mid-1960s (see Fig. 3).[28]

[Insert Figure 3 here]

In 1963 two WHO representatives, Dr L. R. L. Verstuyft, Medical Officer, and Miss M. Farland, Public Health nurse and midwife, visited the Cook Islands. Their report provided an overview of TB services at that time. It gives some indication of how TB was in the spotlight, even though their visit to the Cook Islands was to investigate the status of maternal and child health. They commented on a wide range of medical services available in the Cook Islands, but noted that TB was still a major concern and that in 1962 there were 61 in-patients at the sanatorium and 151 patients in the group receiving domiciliary treatment. Amongst this number of cases, 40 were new detections.[29] It should be noted that in the early stages of mass campaigns there is often an increase in the number of cases due to improved case finding. Many of these cases would have contracted their illness years before.

Verstuyft and Farland observed that at all island antenatal clinics in Rarotonga, women were given an X-ray on their initial visit to check for TB. At this appointment the drug piperazine was also given to women to ensure that they had no parasitic worm infections thus enabling the mother and child to get maximum benefit from the food they consumed. This would also increase their resistance to TB and make it less likely that their babies' BCG vaccination would be compromised (LaBeud et al. 2009). They stated that the Assistant Medical Officer continued the daily round of the island to check on the health in all villages and domiciliary patients —

[28] Legislative Assembly of the Cook Islands, Health Department Annual Reports, Cook Islands Parliament, Rarotonga; AJHR, 1960–1995.

[29] WHO Report, 17 December 1963, South Pacific Health Cook Islands Health General 1955–1966 , H 333/12, ANZ. It is not clear whether the number of new cases refers to the whole group or only Rarotonga since in the previous year the number of new cases was 81 and in the succeeding year it was 77.

enabling the prevention of illness and for BCG immunisations to be given at birth or soon after. In the schools, the children were Mantoux-tested for TB infection and those found negative received a BCG vaccine. They also underwent three medical examinations during their school life. The report noted that:

> a tuberculosis campaign is being conducted. New cases are treated in the sanatorium where they generally stay about twelve months. The average number receiving domiciliary treatment is 103. The strongly positive Heaf reactors [indicating TB infection] receive a preventive course of INH tablets.[30]

The bilateral tie between the Cook Islands and New Zealand as coloniser and post-independence advisor cannot be ignored. The choice the Cook Islands made to be self-governing in Free Association with New Zealand, enabled annual 'grants-in-aid' to be given from the New Zealand government's budget (Aikman 1969). This financial support continued in different forms in later years, directed at social and economic development. It also meant that Cook Islanders in need of medical services beyond what was available in the islands could receive treatment in New Zealand.

These efforts are set against a background of improving social conditions. As housing improved, due to loan schemes of the 1960s, and drug treatments were successful and carefully monitored, TB rates fell. Rising hygiene and sanitation standards, through *tutaka* inspections, and increasing economic opportunities also contributed to the improving health status of Cook Islanders as did

[30] WHO Report, 17 December 1963, South Pacific Health Cook Islands Health General 1955-1966, H 333/12, ANZ. It should have been obvious if children have received a BCG previously, whether the card system was in place or not, as the immunisation leaves a scar.

local partnership organisations such as child welfare clinics, *Au Vaine*, and antenatal clinics in each village.

In 1966/67 there was a significant drop in the number of TB cases being treated (236 in 1966/67 to 136 in 1967/68), particularly in the sanatorium (from 62 to 11). This drop in all cases was paralleled by a significant drop in new cases, which halved between 1965 and 1968 (see Fig. 3). The sanatorium was closed officially at this time although a small number of patients were still treated in it. The emphasis was on home-based treatment.[31]

The almost constant campaigns reduced the cases of TB to a level where by 1975 a mass, population-based campaign was no longer required. TB was no longer the major threat that it had been for the Cook Islands. Medical and technical developments and health education combined successfully, underpinned by the improving socio-economic conditions of the Cook Islands. No one intervention can be singled out as the key. However, the development of multi-scale intertwined relationships with cultural relevance to Cook Islands people, alongside these interventions, enhanced the likelihood of their success.

The medical service, with its anti-TB campaign, had fought a war against a disease that since colonial times had devastated the population of the Cook Islands, and to all appearances, they had nearly succeeded. In 1978/79, TB cases for the Cook Islands were down to 11 under treatment.[32] In recent years the new case rate varies from zero to 10 per 100,000 (between 0 and 2 cases) (WHO 2010). It seems the Cook Islands has achieved, through years of concerted effort, what many other countries are still trying to do.

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[31] Legislative Assembly of the Cook Islands, Health Department Annual Reports, 1945–1975, Cook Islands Parliament, Rarotonga, AJHR, 1945–1975.

[32] TB Register, Public Health Department, Cook Islands Ministry of Health.

Discussion

The convincing lowering of the TB rate exemplifies the nature of the various and complex relationships between colonised and coloniser created and sustained over this period in a context of rising socio-economic capability of the country and improved treatment possibilities. From the 1920s the Cook Islands health service was closely involved in relationships with both the New Zealand government as colonial administrator and a range of other international organisations such as the Rockefeller Foundation and later the SPC and the WHO. These organisations sent visiting research teams, who informed practice and also developed professional relationships and partnerships. The WHO and SPC clearly saw the Cook Islands campaign as something that they could learn from to enable better support of other Pacific nations. With the advent of self-determination and independence the Cook Islands Health Department sought more autonomous relations with New Zealand but wanted, at the same time, to retain the advantages of a close partnership enabling at least ongoing financial support.

The different relationships between these bodies exhibited qualities from authoritarian colonialism to mutual decision-making and sharing of resources and information. Relationships between organisations were always dependent on the quality of inter-personal connections and a global-local fusion of communication. For example, Lambert of the Rockefeller Foundation, commenting on New Zealand–Cook Island relationships in the 1920s, was very clear about the importance of New Zealand Maori doctors in the success of early public health campaigns in the Cook Islands (Lambert 1941). He saw this connection as a demonstration of the close kinship and easy relationships between Polynesian peoples and an example of indigenous health practitioners.

Professional relationships were also the basis for effective health services within the Cook Islands. Dr Tom Davis, with his charismatic appeal, actively created partnerships with the NMPs and nurses during the late 1940s. His work alongside *ta'unga* extended professional ties more broadly. Prior to this the *ta'unga* had been condemned by some missionaries and administrators (Lange 1982). Davis' understanding of the cultural reliance on indigenous medicine made him aware that it was unlikely to be swept aside, as envisaged by some earlier medical officers, so he found a way for the care and treatment provided by *ta'unga* to be honoured. This led ultimately to easy referrals for health care in both directions. Subsequent Cook Island doctors took similar approaches while also embracing their western medical training.[33] Dr Romans, who replaced Davis as CMO in 1951, forged positive relationships with Cook Islands medical staff and frequently advocated for them.

New Zealand-trained medical officers were often in a position to use their prior relationships with colleagues to help them with their work in the Cook Islands. Professional relationships between Cook Island practitioners and New Zealand-based doctors, such as Dr Harold Turbott and Dr J.M. Wogan (Director of the Division of TB in New Zealand's Department of Health), were crucial in implementing effective practices.

At the same time the doctors built up their relationships with local people and grass roots organisations. For example, Dr Ellison paid a major role in shaping the medical service and creating partnerships with community leaders, such as women elders, from 1926 on. These partnerships could encompass authoritarian elements. The regular inspections of villages gave health and sanitary inspectors and the committee members the right to evaluate family living conditions and require work to be done if deemed necessary. A spirit of friendly competition,

[33] Interviews by Futter-Puati with T. Herman, Maoate, N. Herman, Koteka, Rarotonga, 2009.

however, transformed this surveillance into, at times, an almost festive occasion. Even today people express their enjoyment of the *tutaka* (Park and Littleton 2012).

This article has identified the importance of individuals, such as Tau Cowan, Tom Davis, Manea Tamarua and Pari Tamarua as well as interpersonal relationships to successful treatment completion in the Cook Islands. The partnerships are very varied, and not all would be deemed as acceptably empowering in the current health promotion literature cited in our introduction. Yet in the Cook Islands it is the interpretation of the relationship rather than its external appearance that is important. For example, Pari Tamarua, who was sister in charge of the sanatorium, was described as being very strict. However, virtually all the retired doctors and nurses interviewed as part of this research attribute the success of the TB campaign to her and the other medical staff's personal touch (Futter-Puati 2010).

By 1975 TB was no longer the major threat it had been for the Cook Islands. The medical service, with its anti-TB campaign, fought a war against disease that since colonial times had devastated the population of the Cook Islands, and, to all appearances, they had nearly succeeded in eradicating the disease. It was a campaign developed in partnership between indigenous authority structures and the New Zealand colonial administration. Western bio-medical developments of mass X-ray, sanatorium care, vaccination, drug therapy and health education combined as successful interventions alongside indigenous institutions such as *tutaka* inspections, *Au Vaine* (Women's Committees), the delivery of services by indigenous health practitioners and improving socio-economic conditions in the Cook Islands. No one intervention can be singled out as the 'reason' for the success of the Cook Island TB experience. Enduring personal relationships, the support of non-government and government organizations (both colonial and independent) as well as the stable connections and traditional links within village communities and indigenous authority structures all contributed as important conditions for success. It has been argued that without the compliance and obedience that had been established in the Cook Islands through traditional networks, the campaign would not have been so successfully implemented. This particular form of partnership was crucial to its success.

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