

# Problems in paradise: medical aspects of the New Zealand occupation of Western Samoa, 1914 -1918

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## Abstract

Western Samoa was an imperial German possession until occupied in August 1914 by 1,500 New Zealand troops. The force, which landed unopposed, was accompanied by almost 90 health staff of the New Zealand Army Medical Corps. They worked to ensure the health of two relief forces from 1914 to 1918. The German health administration they inherited became an added burden with respect to civilian health and sanitation matters on the island. Many health challenges and problems were faced by the Corps during its deployment in Western Samoa.

**Keywords:** Western Samoa, New Zealand Expeditionary Force, World War One, Spanish Influenza

Before looking at the medical problems faced by the New Zealand garrison through its long occupation of Western Samoa from 1914 to 1918, it is necessary to briefly examine the reasons for its being sent there in the first place

On the evening of Thursday, 6 August 1914, the New Zealand Governor received a cable from the Secretary of State in London. It was believed the Dominion Government could make a valuable contribution to the war if its forces seized the German garrison and its wireless station at Apia, Western Samoa.

Almost immediately men were enrolled and a force was assembled by 11 August. Numbering almost 1,500 troops, it consisted of the 5th (Wellington) Regiment and its band, the 6th (Auckland) Regiment, an artillery battery, a company of New Zealand Field Engineers, a section of signallers, men of the New Zealand Railway Engineers and small groups from the Army Service Corps, a Post & Telegraphic detachment and an 11-man contingent from Fiji. The force was accompanied by 72 officers and men of the New Zealand Medical Corps, together with a matron and six nurses, two dentists, a 'compounder' (or pharmacist's assistant) and a bugler.<sup>1</sup>

The first the medical staff in New Zealand knew anything about an expedition was on Friday 7 August 1914, when it received a request for one section of a field ambulance to accompany an advance party. Instructions were then issued to the corps to supply a unit which could act both as a small base hospital and as a field ambulance. Medical supplies included 12 lbs. chloroform, 2 lbs. boric acid, 2 lbs. petroleum jelly, 15 yards of waterproof sheeting, 300

first field dressings, 1,000 safety pins; and a quantity of the ubiquitous Condy's crystals.

The troops were crammed on board two dirty and badly ventilated transport ships - the *Moeraki* and the *Monowai*. Accompanied by three light cruisers, the convoy left Wellington on Saturday 15 and proceeded towards New Caledonia.

There was little in the way of acclimatising the soldiers who had left a New Zealand winter for the tropics. En route the soldiers were very sea-sick, but apart from a successful appendectomy, intense training and lectures, the voyage was otherwise uneventful. At Noumea the French heavy cruiser *Montcalm* and the cruisers *HMAS Australia* and *HMAS Melbourne* joined the convoy as escorts. Shortly thereafter it left for Fiji, where the chief medical officer gave his New Zealand colleagues a briefing on tropical diseases.

Despite rumours of a German fleet in the vicinity, the Occupation Force landed unopposed on the morning of 29 August.

The rather sedate landing was a far cry from Gallipoli. A boat put ashore with a white flag and the terms of surrender were accepted by the German Governor's deputy. On Sunday 30 the British Union Jack was hoisted formally at the Apia court house.

Almost immediately after the proclamation was read the Samoan officials were reinstated in their former positions and German administrators were allowed, for the time being, to remain in office. A bungalow on the waterfront, owned by the main German firm in Apia, was occupied as a make-shift temporary hospital by the field ambulance and centres for sick



Figure 1. Apia Hospital, with some NZ military patients Courtesy Alexander Turnbull Library, Wellington, New Zealand

parades were established elsewhere. The remainder of the Medical Corps camped at the race course. Medical orders soon became frequent and warnings were issued against 'drinking unboiled water, against sustaining sunstroke and sunburn, bathing more than twice daily and against walking bare foot.

The Apia Hospital, originally the gift of a German philanthropist, was commandeered almost immediately. It was a large, airy bungalow building, the cool wards and living quarters opening onto wide verandahs. However the Principal Medical Officer (PMO) soon reported adversely on its operating theatre which had insufficient light during periods of cloudy weather.

Medical officers, nursing sisters and orderlies of the NZMC were busy with both military and civilian patients at the hospital.

Barely a month passed when, on Friday 11 September, the German Chief Health Officer informed Lieutenant Colonel Matthew Holmes, the PMO, that his entire hospital staff of 15 had decided to cease work and that they would vacate the hospital next morning. Holmes therefore had 16 hours notice 'to take on the whole of the civil as well as the military medical work' in Apia and surrounding districts.<sup>2</sup> This placed a considerable additional load on the army medical and nursing staff until a German doctor (an officer in the Imperial German Naval Reserve) was authorised to deal with plantation workers and the Chinese community of indentured labourers.

## Issues

There were accidents normally associated with garrison life. Some were fatal, such as the death of a nurse from meningitis, an accidental shooting and a soldier who fell from a hotel balcony and died of a fractured skull. There were also the 'occupational' hazards of soldiering in the tropics. In January 1915 there was an epidemic of ringworm and, at the end



Figure 2. Members of the NZ Force landing in Apia harbour, 29 August 1914 Courtesy Alexander Turnbull Library, Wellington, New Zealand

of that year, many men presented with the irritating complaint, 'dhobie itch' (or *Tinea cruris*). There was also a constant stream of soldiers who presented with sores resulting from mosquito bites and skin abrasions, which, unless treated early, became septic and difficult to cure.<sup>2</sup>

An indication of the hospital work is provided by a report for the period 15 January to 1 February 1915 when an average of 22 patients were seen daily. During the month there were two cases of appendicitis (one surgical), five cases of hernia, one of varicocele and one of varicose leg veins, which were treated to render the patients fit for active service. Ongoing medical problems for which soldiers were treated included synovitis, 'septic eye', filariasis, 'debility', dysentery, 'ear trouble' and soft tissue injuries.<sup>2</sup> This profile changed according to season.

In the wet periods medical officers reported an increase in the incidence of 'catarrhal jaundice, "colds" and rheumatism.' The increasing demand on the medical service was offset by a reduction in infectious eye diseases during the cooler months (June and July) due to the smaller fly population. The garrison had succumbed to eye problems almost immediately after landing at Apia. There was a high rate of an extremely contagious disease, described by a contemporary authority as being caused by 'a special microbe, resembling in its effects *Gonorrhea ophthalmia*, the offending carrier being the fly, which soon became a dreadful pest.' This condition responded well to the local application of silver nitrate. There were more than 100 cases of ophthalmia among soldiers in 1915.

Ear problems among the troops was a direct result of swimming in the sea and the local rivers. These conditions were almost always an infection of the ear canal. Consequently medical officers tried to restrict bathing, but with little success. The commonest form of ear complaint with which soldiers presented was

reported to be meatitis which 'caused such intense pain that in many instances the patient was totally unfit for duty.' In addition, numerous cases were caused by insect bites and not infrequently insects had to be washed out of ears with syringing.

It is interesting that medical diaries observe that many of the younger men of the garrison were 'breaking down'. Between 18 December 1914 and 14 January 1915, 14 men had been returned medically unfit to New Zealand. It was hoped that the relief force, which consisted of older men, would be more resilient. Less than two months later the transport *Moeraki* left Apia with a considerable number of men who were showing 'signs of being unfavourably influenced by the climate.' These men were used to supplement the home force. By late October 1916, doctors recommended that troops do no work between 10 am and 3 pm, but this regulation was not always observed.

## Alcoholism

Alcoholism has long been associated with the tedium of garrison duty. In a private letter the PMO wrote to the Director of Medical Services in New Zealand, Surgeon General R.S.F. Henderson and admitted that his attempt to place the island's hotels 'out of bounds' had been unsuccessful. He advised that: 'There is about 25% of the men who are boozers & they have created a very bad impression among the Samoans...'

Alcoholism was not confined to the ranks. A civilian doctor brought from New Zealand on contract as a Government medical officer had arrived (with one other doctor) on 17 January 1916. Less than a month later the Provost Marshal in Samoa wrote letters to all the publicans in Apia forbidding them to supply the medico with intoxicating liquor of any kind.

## Disease

The garrison had its first case of dengue fever within a month of landing in Samoa. Subsequently there were sporadic outbreaks in the following year, particularly in April and May when the fever was reported to be more severe. The analgesic and antipyretic properties of aspirin were most effective, while quinine was a good tonic during convalescence. The only prophylactic measure available was to take precautions to avoid mosquito bite.

In June 1915 the whole force was inoculated for the second time against typhoid as two cases had been identified. It was then decided to inoculate a third time, due to the success reported by the United States military of giving a course of three injections.

The first case of dysentery (caused by *Shigella*) occurred on 6 September and debilitated many soldiers throughout the following month. The average stay in hospital was about 10 days and, in the absence of adequate supplies of suitable foods, the outbreak had to be dealt with by the supply of arrowroot from the field ambulance. At the various posts small temporary clinics were established by the Medical Corps. These had a supply of drugs and dressings and sick parades were held twice daily, under the supervision of a medical officer. Arrangements were made so that temporary and minor cases of sickness could be admitted locally to avoid overcrowding the base hospital.

The main disease vectors in Western Samoa at that time were mosquitoes (dengue fever and filariasis), flies (typhoid, ophthalmia, framboesia) and contaminated water (typhoid and dysentery). Typhoid (*Salmonella typhi*) was endemic to parts of the main island of Western Samoa.

## Dental problems

Not long into the occupation, a total of 439 garrison troops presented over a three week period in 1914 with dental problems ranging from salivary calculus to periostitis. Steady progress was made repairing the ravages of decay in their teeth, with a consequent marked improvement in general health.

From the force's mobilisation in August 1914 to January 1915, the total number of attendances for dental treatment was 1,719. Thirty per cent required 'extreme work'. 'A large number of badly decayed teeth (1,204) have been extracted, practically all being done with local anaesthetic and 735 fillings have been inserted.' The PMO noted that the condition of a number of men's teeth was so bad that they had to be repatriated to New Zealand.

It is noteworthy that the authorities included dentists among those who deployed, a lesson not learned by the Australian army until early 1916.

## Public Health and Sanitation

The occupation saw many lost opportunities, due mainly to the lack of resources. There was a dearth of basic equipment, including pumps for mosquito spraying (which had to be done by means of watering cans). Regulations were periodically promulgated forbidding 'the dumping of rubbish on the foreshore' and to clear land of 'tins, coconut shells, or other receptacles that might catch and retain water.'

Throughout August 1915 there was a conscious effort on the part of the medical authorities to contribute to public health. The fences around the Market Hall were moved to provide more ground space and two



large shelter trees were transplanted in front of the market. Particular attention was also given to latrines which were constructed on a pan system and designed to prevent flies becoming a nuisance. Several improvements were made to the Government Prison as well as repairs to the hospital's water supply and drainage.

Despite these measures, the battle to institute public hygiene measures was not going well, for by mid 1916 the PMO wrote to the Commander-in-Chief in Samoa (Colonel Robert Logan): 'It is a matter of urgency that something should be done soon so that we can get a start up to improve the sanitary conditions.' He suggested that Fiji's health regulations should be adopted in their entirety 'for consideration at the termination of the Occupation...'<sup>2</sup>

Among the civilian population, the most common problems were cataracts and the 'follicular' variety of conjunctivitis. Medical officers discovered a novel method of treating the 'so-called Samoa Trachoma' which consisted of dusting the infected area with subchloride of mercury. This treatment was 'inexpensive and painless.' Among children yaws (or *framboesia*) was especially predominant, while, in the general population filariasis and, to a much lesser extent, Hansen's Disease were also present.

Climate and poor sanitary conditions together made life difficult for the medical staff. In June 1916 the PMO reported that sanitary facilities at the various army establishments on the island were a disgrace, particularly with regard to cooking and messing arrangements. He similarly condemned the Quartermaster's store three weeks later. The floor underneath the building was so filled with rubbish preventing ventilation that temperature and humidity in the building were excessively high, leading to large scale wastage. Among a large number of examples cited were the destruction of 625 lbs potatoes and 2,296 lbs tinned fruit in just two months.

## Diet

The climate played havoc with bulk food and large quantities became infested with weevils or went mouldy. It was soon discovered that rice did not keep well in bags and arrangements were made to have it shipped to the garrison in tins. Twelve months later it was found that bread was also causing digestive troubles and Australian flour, which had better keeping qualities, was substituted for the New Zealand flour then in use at the garrison. Ironically, there were shortages of fruit and vegetables because the Samoan subsistence economy still had not caught up with the greatly increased demands.

Medical officers unanimously agreed that the standard ration provided the calorie requirements of the force, but that it was bland and monotonous. They suggested the inclusion of curries and pawpaw, together with beer and mineral water in the messes.

As the small Apia freezer and ice works could not cope with demand it could not provide sufficient storage for the garrison's frozen meat (from New Zealand) and much of it went bad. Local supplies weren't favourably viewed either. Of a sample of three carcasses tested in 1916, two were 'condemned and burnt', while a third was described as 'tubercular.'

## Dress

Upon their arrival in Western Samoa soldiers wore the standard New Zealand army issue of heavy woollen uniforms.

Not surprisingly, local stores did a 'roaring' trade in light singlets and shirts, while every possible article of heavy army apparel was discarded. Shorts became shorter and shorter until orders were issued to regulate their length. With hard use and rough marching, army boots became a problem and the lack of suitable equipment soon became a pressing logistics issue. In addition, the dye in army issue shirts was found to be defective. Two pairs of boots and one uniform per man were not sufficient to stand up to the strain.

## Medical Routine

The training of all members of the Medical Corps continued throughout the occupation. Routine sick parades were discontinued within months of the force landing, to allow more time for the training of the ambulance unit. It now had company drill 'four mornings a week, lectures on three mornings a week; and practical work five afternoons a week.' The nursing orderlies in the hospital rotated with medical staff in the field, so that 'every member of the unit had personal experience in nursing duties before leaving Samoa.'<sup>2</sup>

## Psychological Problems

The routine and tedium of garrison life, even in beautiful surrounds, eventually told on the health and state of the troops stationed there throughout the occupation. This picture was drawn by one who was there:

The weather had broken in September and for days the rain fell in torrential downpour. The rivers rose and the low-lying flats on which the racecourse camp was situated became a sea of mud, which added to the discomfort of the already harassed guards and picquets and swamped the tents and surroundings. With no bunks to keep the men off the soaking

ground, the poor quality of the food, the pests and ever-present mosquito, which here abounded, the detachments for return to New Zealand daily grew in numbers.<sup>1</sup>

By the middle of 1916, the PMO's diaries reflect a certain bewilderment about ongoing illness among the diminishing garrison. He noted:

'There is no serious sickness in the Garrison but for the size of it there are a lot of minor ailments which it appears should not exist. On looking for the cause of this it seems to me to be in a great measure due to the "mental unrest" of many of the Garrison who after about 18 months residence in Samoa find life very irksome and monotonous, the younger ones expressing a keen desire for a more active life.'<sup>4</sup>

They were also eager to join their colleagues at home in preparing to set off for the Western Front in France. Indeed many of them did find their way to the Somme to join the general slaughter there.

Apart from continual training and route marches, amusements were few and consisted in swimming, boxing, blind-fold boxing and cockfighting. This routine was rarely interrupted. However, on 14 September 1914 the German heavy cruisers *Scharnhorst* and *Gneisenau* appeared in Apia harbour at day-break and an attack was momentarily expected. A mild panic ensued and several hospital patients effected miraculous recoveries. But, on seeing the Union Jack flying on the Government buildings, the German ships slowly turned about and left without firing a shot. The German intent had been to surprise allied warships in Apia harbour. But all these vessels had since left the area. Also, shelling the largely undefended capital would have been a needless waste of ammunition. So the two enemy ships sailed off.

By 15 January 1918, 77 men had served in Samoa non-stop for three years. Doctors had long recommended rotating tours and relief after long service, but such a system was introduced only in May 1918. Even then it applied to only small groups of men, so that it was not until September that all the 'old timers' had been sent home.

### The Spanish 'flu

Throughout the occupation there were minor epidemics of measles and colds whose effects were more severe among the civilian, rather than the AngloCeltic garrison population. However these epidemics were brought to the island by New Zealand troops. Measles, particularly, was characterised as a 'raging epidemic, with children being worst affected.' There were apparently some deaths,

although the number is not recorded. But the most notorious outbreak the authorities had to deal with (unsuccessfully) was the influenza pandemic of 1918.

On 7 November 1918, the transport *Talune* which had left New Zealand via Fiji, moored at Apia without quarantine restrictions. Several people on board were suffering from influenza and some later died. At the time influenza was a notifiable illness, yet the New Zealand authorities failed to notify its administration in Apia of the progress of the disease. The New Zealand Administrator, Colonel Robert Logan, also refused offers of assistance from nearby American Samoa. As the PMO later recorded in his diary: '...it was not until we opened the papers received by the mail brought by the *Talune* that we learnt there had been an outbreak of a serious nature in Auckland and Suva. The disease spread with alarming rapidity, all the barracks were infected within a week, ninety per cent of the men being affected.' Shortly after, he wrote that since his last report 'we have experienced a severe epidemic of influenza, which unfortunately has proved fatal to seven men of the Garrison.'<sup>3</sup>

However there was no mention that 22% percent of Western Samoa's population (almost 9,000 victims, aged mainly between 18 and 35) perished in a few months.<sup>5</sup> The huge mortality rate was hard to explain to angry Samoans, as American Samoa, a little over 100 kilometres to the east, escaped the pandemic unscathed because of standard quarantine procedures which were stringently policed by the United States Navy.

As noted this was the year in which the influenza epidemic, commonly known as "Spanish 'flu" swept the world. On 19 November the military governor in the capital of Apia telegraphed Wellington for help, but his request was refused on the grounds that all doctors were needed in New Zealand. Australia offered the only alternative source of aid. In response, on the following day, the Australian Commonwealth Naval Board began forming a joint relief expedition from available military and naval medical personnel under Surgeon Lieutenant Frank Temple Grey.

HMAS *Encounter* was ordered to deploy almost immediately from Sydney with a cargo of medical and humanitarian supplies. Commanded by Captain Hugh Thring, she departed on 24 November 1918, ten minutes after completing loading.<sup>6</sup> As a precaution, all 450 members of *Encounter's* crew were doubly inoculated as the ship had suffered 74 cases earlier in the year at Fremantle. *Encounter* arrived in Suva on 30 November and took on coal and 39 tonnes of water. Later that day she departed and arrived off Apia (where there were now 50 deaths

reported a day) on 3 December. Within a few hours, six surgeons, 18 medical orderlies and three naval sick berth ratings and their stores were ashore.<sup>7</sup> This deployment is regarded as Australia's first overseas relief expedition.

## Conclusion

It is important to remember that unlike the Australian Army Medical Service, the New Zealand Medical Corps

was formed only in 1908, barely six years before it was deployed in Western Samoa. Nevertheless, the garrison duty there gave its members unusual opportunities for training and administering to the medical needs of both its soldiers and to a wider civilian population.

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